TOOLKIT MODELS

Communication in participatory design

Maria Oplatek

Contents

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1. Self-help by remote control
Abstract

Following the trilogy of Christopher Alexander completed in 1977 and The First Participatory Design Conference in 1990, many theorists acknowledged that collaboration with users can improve the quality of incremental projects opposing the ignorant processes that wouldn't include user participation*1 such as the early sites and services proposals that were so criticized by Correra and Doshi[1]. The rigid rules would often omit that people might lack the necessary knowledge or resources to conduct the building effectively and efficiently.[2] As follows, there was a big overlap between what the state assumed that the user needed and what was actually needed. In the book *Production of Houses* Alexander explains that these needs differ per household in the greatest detail and therefore, cannot be assembled systematically by site workers: "Standard components, attached by standard connections are assembled by workers and crane operators, who know nothing about the houses, have no feeling about what is going to happen in them, and cannot possibly adapt the details of construction to fit the needs of the inhabitants."[3] Following upon the thought of personalization that was to be the answer to the problems of the top-down approach, many concluded that collaboration of users, architects, and authorities leads to a timeless way of design that is "a public policy concern, as it can provide significant benefits for low-income families and the community as a whole, such as improvements in the safety and health of the beneficiary households" (Greene & Rojas, 2008, p. 94).

Parallel to that debate appears the question of how to truly include users' intake in the incremental process. Starting from the beginning, the "top" often tries to engage in a conversation with users by initiating conversations with the citizen. However, those only repeat what was once said by the interviewee, which may lead to misinterpretation and dismissal of the truth. Even if the opinion of the user is solely maintained, there are plenty of opportunities to lose it further in the building process. For instance, construction is carried out by contractors, not the users themselves. Even before that, in the design phase, the user consults the project and does not design due to a lack of opportunity, necessary knowledge, or will. [4] Furthermore, even if there is a mutual need for dialogue, the project manager can decrease the opportunity for it, so fragmentation of communication occurs. This exemplifies that participation may not always be participatory, after all the role of a user swifts away from impactful decisions to the interior décor. As follows, we must ask the question: Is there a toolkit*2 that truly maintains user involvement in the incremental process?

Keywords: toolkit, handbook, participation, power dynamics, communication models

1. B. Doshi, Balkrishna Doshi: Architecture for the People, (2019), Vitra Design Museum, p.41.

*1 Participation: collaboration between the user and other stakeholders.

2. J. Galuszka, "Housing provision and improvement programmes for low income populations in the developing world. A Review of approaches and their significance in the European context". Bulletin of Geography. Socio-economic Series, no.18, (2012), Nicolaus Copernicus University, p.29.

3. C. Alexander, Production of Houses, (1985), Oxford University Press, p.221.

4. Ibid., p.34.

*2 Toolkit: the definition of a toolkit has to be narrowed down to a set of two tools; A handbook and a spatial entity of incremental typology which the handbook describes in a form of text and drawings.

2. Top-down. Remote control. Participatory feedback.
Literature review

It is the early 20th century, and countries worldwide are struggling with the housing shortage. The governing proposes various policies that incorporate user participation. Most of those policies are based on documents from municipalities, city councils, and NGOs. They are essentially a set of rules on “how to build”. Ersatzbauweisen, which is the first of those policies, emerges in Germany in 1926, Ernst May takes on vernacular methods however, omits the participatory approach.[5] Then in the years from 1927 to 1990 policy run by the City of Stockholm, shows that almost any family could erect a decent dwelling, but the approach lacks flexibility as operating on municipally owned land relies on prefabrication. From 1942 to 1975, the Canadian *Build Your Own Home* program offers financial, legal, and technical assistance to amateur builders. The scheme enables families to build different types of dwellings on privately owned sites which unfortunately encourages scattered development.[6] The connection must be then provided by a tool that activates long-term supervision enabling remote control with essential advice that guides each step of the incremental process long after the architect is gone from the building site. Such tools are well described by Hamdi, a pioneer of structural systems for incrementality:

5. S. R. Hendrson,VBuilding Culture: Ernst May and the New Frankfurt am Main Initiative, 1926-1931. (2013), Peter Lang Inc., International Academic Publishers; First edition,

6. T. Schulist and R. L. Harris, “Build your own home: state – assisted self – help housing in Canada, 1942-75”, Planning Perspectives, (2002), School of Geography and Geology, p.345.

“(…), which I believe is vital for working effectively, is to think more carefully about how we organize what we want to say, and how we do it. Good journalists have the skills of packaging complex information in simple and understandable ways - well-written newspaper articles provide good examples for simplifying the complicated into understandable and usable form.”

Hamdi, N., The Placemaker’s Guide to Building Community, 2010, p.20.

Sanoff continues this thought, by pointing out that radical planning methods of the top, such as master or development plans take too long to develop, demand substantial resources to implement, and are of no benefit to the poor majority of urban populations. Therefore, Sanoff highlights the smaller scale of participation and advocates for various participatory methods by saying:

“Good practice hinges on effective communication. A large part of that involves listening, and, importantly, being understood as one who wants to listen. Communication needs not always be verbal: plenty of nonverbal communication takes place and, as in the use of tools such as Participatory Rapid Appraisal (PRA), words are sometimes not the main means of communication.”

Sanoff H., Community Participation Methods in Designing and Planning, 2018, p.8.

With that, the author described various tools, such as PRA, that indeed enhance understanding of each party, as well as bring the top and the down closer. If we look at the global perspective, each includes 4 main points: aids for participation, a legislation entity, a design entity, and a contractor. However, the majority of the aids take place mostly at the sketch phase of the project and decrease the ability of decision-making of participants in the later stages. In an ideal situation, participants could take a stand in every design stage, not only at the beginning. As follows, to understand where the deficit of communication emerges, one has to come back to the beginning of the process; a collection of user feedback, that is: interviews, semi-structured interviews, on-site workshops, surveys, citizen consolations, serious games, visioning, toolkits, and models 1:1 scale.[7] Such methods are often used only at the beginning of the design process therefore, do not encourage persistent dialogue between users and architects at every phase of the project This is because:

7. H. Sanoff, Community Participation Methods in Designing and Planning, (1999), Wiley, p.84.

“A powerless participant has little say in how their story is written in the end.”

Yanru, G. and Dion, G.H.L., We want to hear Your Voice, 2019, p.561.

As Yanru Guo & Dion Goh Hoe-Lian, claim in their research *We want to hear Your Voice* participatory data can often be manipulated; the interviewer may use report building techniques to tell the user’s story that may omit nuances. Moreover, it is the researcher who decides on the quantity and quality of information to be provided to the participants.[8] Publications based on such methods may also damage the interests of the individual or the groups to which they belong.[9] Dynamics brought forth by the power and the powerlessness add to complex relations between the researcher and the participant which results in a design detached from users’ needs.[10] To avoid it, one has to use a form of communication that meticulously includes user feedback and wanting as those have an immense impact on the success of incremental development.[11] Therefore, the feedback must be included in the toolkit as a direct guideline that explains step by step the “hows”, “whys” and “whats” to achieve the goal. A partial solution to that is mentioned by Sanoff[12] and researched by Rachel Luck. Now, the moment that architect decides to exert participatory feedback, they become the narrators of the user’s story. Rachel Luck, a Professor at the faculty of Architecture and Engineering Sciences and ethnographical researcher at The Open University, recognizes that semi-structured interviews decrease the possibility of manipulating user feedback as they allow the user to express themselves freely. She proposes that the interviewee should not be asked questions instead, the interviewer should have a checklist of headings, such as aide memoire to steer the discussion by asking questions “But what about ‘heading’?”.[13] The concept of aide memoire explains how to harvest user feedback, project briefing[14] helps to maintain the possibility for interaction at every stage of the designing process. Her idea is that the second step of project briefing should be documenting interviews so that user opinion could be reviewed and revisited at a later stage.

“the briefing procedures reflected an iterative decision-making process rather than a post-hoc, smooth, sequential process”

Luck, R., 2003.

8. G.Yanru, and D. Hoe-Lian, “We Want to Hear Your Voice”. Power Relations in Participatory Design, (2014) , https://www.researchgate.net/publication/271419931_We_Want_to_Hear_Your_Voice_Power_R elations_in_Participatory_Design, pp.561 - 566.

9. Ibid., p.561.

10. Ibid., p.562.

11. Ibid., p.563.

12. H. Sanoff, Community Participation Methods in Designing and Planning, (1999), Wiley, p.84.

13. R. Luck, Dialogue in participatory design in Design Studies Vol.24 No. 6, (2003), https://www.researchgate.net/publication/222650807_Dialogue_in_participatory_design, The Research Group for Inclusive Environments, Department of Construction Management and Engineering, University of Reading, pp.526 - 530.

3. Toollkit Communication Model
Research question

Even though we ask proper questions such as who decides on who participates, how to conduct objective research, and how to represent participants[15] [16] to approximate the idea of straightforward dialogue, still, we seem to omit the fact that the feedback must be included in a continuous form of supervision including the right advice. The question that remains is how toolkits can incorporate user feedback even more intensively. Thus, the focus of this paper is to look at how toolkits contribute to enabling communication through direct dialogue throughout every stage of a project so that the users can be supervised whenever in need as only then the design power truly belongs to them in a long-term manner. This matter will be explored by asking a descriptive research question:

*How **toolkits** for **self-help** contribute to **communication** between the user and the architect in a **tangible** way that perservere long-term supervison?*

3.1 Communication

There are many ways to have a conversation and inevitably spacwe is one of them. Not only on a daily basis but also in the participatory methods, we fail to understand each other. Within the first meeting, architect and user establish a dialogue, broadly speaking, a form of communication, which is specifically crucial for incremental housing projects when at some point the user takes over the role of an architect. Bull’s Eye Communication Model[17] is a concept developed by Claude Shannon (Fig. 1),mathematician and engineer, professor at the Massachusetts Institute of Technology.

14. R. Luck, H. Haenlein, and K. Bright, K. Project Briefing for Accessible Design, (2001), The Research Group for Inclusive Environments, Department of Construction Management and Engineering, University of Reading, pp. 297 - 299, https://www.academia.edu/25180096/Project_briefing_for_accessible_design

15. R. Pain and P. Francis, Reflections on participatory research in Area, (2003) , Vol.35, no.1, pp.46 - 54.

16. M. David, “Problems of participation: The limits of action research in International”, Journal of Social Research Methodology, vol. 5, no.1, (2002) pp.11 - 17.

It well explains how contents of toolkits impact the way the message is delivered to the user.[18] For instance, such a model could be found in a magazine or a comic book, both have different communication models. In either case, there is a different visual and verbal structure that influences our thinking. However, for an image to work it has to stimulate both the thinking and the feeling part of our brain, that is for example why comics are an easily digestible medium, its drawing activates the feeling, while words induce thinking.[19] The Communication Model developed by Shannon consists of source, message, medium, noise, receiver, and feedback.[20] Let's apply this model to a participatory process in incremental housing for better understating of communication between the user and the architect (Fig. 1).

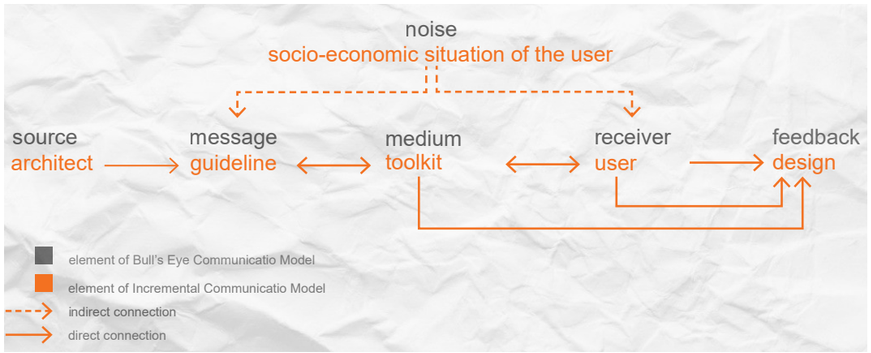

Figure 1 Incremental Communication Model.

3.2 Tangible

Before we dissect the contents of toolkits, there must be a distinction between three-dimensional and two-dimensional communications. First, there is a user - space relation: people give narrative to the space by engaging with it, while the space defines the behaviors of users by its design. Second, a relation between the drawing and the word: a more literal form of communication in which symbiosis of both plays a crucial role in conveying the content.[21] When applying such thinking to the incremental process, people make something from a "toolkit" and discuss it. It is often done since the principle is that through the use of guidelines and procedures, the genuinely participatory design places the control of knowledge in the hands of the community[22] and allows different voices to be heard, understood, and heeded.[23] These "make" tools need to be abstract concepts addressed with words to provide people with means to think and express themselves in more conceptual ways. The role of the architect expands to facilitate this expression into a tangible.[24]

3.3 Toolkit

Toolkit seems to be an umbrella term therefore, it has to be clarified. Many scholars refer to various things by the word toolkit - construction kit, action kit, structural kit, map, manual, or DIY handbook. The names would depend on the personal preferences of the author, content, and nature of the guidelines, which varies from purely structural to décor. The ones concerning the support and infill approach of Habraken would be called structural kits, while those concerning user personalization would be handbooks. Regardless of the name, all those toolkits are books with a description of spatial entities of the design and guidelines on how to achieve what one desires in their home. These spatial entities are well described by the theory of form language, which consists of geometrical rules for putting matter together. It is visual and tectonic, traditionally arising from available materials and their human uses rather than from images. The problem is that not all form languages are adaptive to human sensibilities[25] since "every adaptive design method combines a pattern language with a viable form language, otherwise it inevitably creates alien environments." (Salingaros, 2014). What we need most to formulate a toolkit is indeed understanding the thinking behind guidelines and their reflection in the space therefore, all the variety of names becomes a secondary matter and will be reduced to a single word toolkit. Therefore, the definition of the *toolkit* could be as follows:

Toolkit - a set of two tools: a handbook and a physical, spatial entity. Those are equal and complete each other. The handbook is a book of dozens or several dozens of pages with a specific order of verbal guidelines followed by drawings that vary from "flat" plans to isometries of a single screw. On the other hand, the spatial entity is a design feature such as unit layout, or construction grid, perhaps designed for incremental growth, interior decor, assembly of structural elements, and furniture. The use or way of modification of that spatial entity is described in the handbook and often interpreted or reinterpreted by users.

3.4 Self-help

The different scopes of information that are provided in the toolkit result in different incrementality types. It leads to the gradation of the user's contribution concluding in different incremental approaches: aided self-help, self-help, and support-infill while giving to the user different roles: participant, interior designer, architect, builder, and influencer. The idea of participation emerged alongside the boom of the worldwide DIY movement.[26] In 1950, on one hand, many rebel against designing for predefined essentials.[27] Others, like Christopher Alexander, opt for automatization of the building process in aided self-help.[28] In 1964 UN-Nation develops *Manual on Self-Help Housing*, in which they describe the participatory process for self-help, including analysis of user interviews, as a crucial point in the manual. One of the most telling aspects of that work is the questionnaires and survey which selected families part took in. That is to show the importance of participation as the baseline for toolkits. Architects try to understand people's desires by formulating user profiles or maps[29] and utilizing them to raise people's ability in rationalization and articulation of their needs properly to create a "reasonable customer"[30] whose wantings shall be materialized in a form of facilities in the spirit of Scandinavian Functionalism. [31] [32] Nils Ole Lund emphasizes users' individuality by creating multiple possibilities of personalization in a handbook as a part of a competition proposal for the residential district in Skjetten.[33] At the same time, Cedric Price advocates for family member profiles to alter the flexibility of housing units which is supported by prefabricated construction providing a whole catalog of possibilities for the user to select in *Supplement 5*.[34] Contrastingly, in Germany, there is the focus primarily on the structural aspect of kits that emerged from the vernacular architecture of the XIII century. May and Wagner, to name a few, undertook various experiments that manifested in a series of projects, essays, model houses, and Siedlungen. They followed two different categories of industrial logic: First, a flexible Assembly Line, and second Construction Kit[35] [36] as means for industrialization of modular elements to build fast and easily as a response to the housing shortage. Another group is interested in a support-infill approach that involves both, user consultation to construct assembly kits and teaching users how to erect a house. In 1967, Nick Wilkinson and Nabeel Hamdi as a part of GLC unveil PSSHAK (Primary Support System and Housing Assembly Kits), a manual for system of prefabrication version of support-infill approach developed by dutch architect Nicolas Habraken. Two schemes were built using this method, Adelaide Road, Camden, and Stamford Hill, Hackney.[37] Dutch architects, like Frans van der Werf, Gramersbacher, and Schneider manifest ideas similar to support and infill, they put focus on heterogeneous typologies that involve different scales of participation varying from drawing together with the user[38], to Open Building approach.[39] [40] Similar movements can be found in Poland, where Oskar Hansen designs his own house on the same basis and attends applying adjustable solutions for cookie-cutter neighborhoods constructed under restrictive building code[41] in Warsaw and Kraków. Then in the 80s, as a response to a number of problems related to "right of use" laws, the Japanese government calls for a manual that describes the basic principles and methods of mobilizing human and technical resources for self-help housing as a part of the Experimental Housing Project (KEP). This is complementary to the "Tsukuba Method" which began in 1995 and was led by Hideki Kobayashi, who developed a manual for moveable partitioning and storage systems that allow residents to alter their living environments themselves. Both notions were inspired by the support-infill approach however, the leading thoughts were more concerned with the technical aspects such as detachment of water and electric installations in the partition walls. Those were trying and are still trying to find solutions on how to regulate (aided) self-help growth through external parties, while maintaining user personalization of the interior, concept of land ownership, and household control.[42]

17. M. Danesi, Popular Culture, (1992), Rowman & Littlefield publishers, p.38.

18. M. Danesi and Perron. P. Analysing Cultures, An Introduction & Handbook, (1992), Rowman & Littlefield publishers, p.264.

19. Ibid., p.70.

20. M. Danesi, Popular Culture, (1992), Rowman & Littlefield publishers, p.39.

21. P. Schumacher, Communication is Design, (2011) https://www.patrikschumacher.com/Texts/Design%20is%20Communication.htm

22. R. Luck, H. Haenlein and K. Bright, K. Project Briefing for Accessible Design, (2001), The Research Group for Inclusive Environments, Department of Construction Management and Engineering, University of Reading, pp. 297 -299, https://www.academia.edu/25180096/Project_briefing_for_accessible_design

23. D. Kuchenbuch, "Swedish Modernism", Footprints in the Snow, (2010), pp.166 - 167.

24. N. Hamdi, The Placemaker's Guide to Building Community, (2010), Routledge, p.20.

25. N. Salingaros, A Theory of Architecture Part 1: Pattern Language vs. Form Language, (2014)

26. S. Schindler, "Content, Community and Capital: Keywords for the Housing under Neoliberalism", Footprint, 13(1 #24), (2019), p.61.

27. Ibid. p.55.

28. C. Alexander, Production of Houses, (1985), Oxford University Press, p.221.

29. N. Mota and Y. Allweil, (Eds.) "The Architecture of Housing after the Neoliberal Turn." Footprint, 13 (1 #24), (2019). https://doi.org/10.7480/footprint.13.1

30. M. Göransdotter, "A Home for Modern Life: Educating taste in 1940s Sweden", Design Research Society: Bankok , Vol.2, (2012), pp.527 - 534.

31. Ibid., p. 539.

32. D. Kuchenbuch, "Swedish Modernism", Footprints in the Snow, (2010), pp.166 - 167.

33. N. Lund, "Skjetten, Norway.", Arkitekten, Vol.75, no.10/11, (q973), pp. 185 - 195.

34. C. Anderson, "Good Life Now: Leisure and Labour in Cedric Price's Housing Research, 1966–1973", Footprint, 13(1 #24), (2019).

35. A.M. Seelow, The Construction Kit and the Assembly Line, (2010) https://www.researchgate.net/publication/329280918_The_Construction_Kit_and_the_Assembly_Line_-_Walter_Gropius'_Concepts_for_Rationalizing_Architecture, pp.4 - 15.

36. Ibid., p.8.

37. Carr, R. "Building Up", Design Journal, Vol.275, (1971), pp. 31 – 39, https://www.vads.ac.uk/digital/collection/DIAD/id/6910

38. S. Kendall and J. Teicher, Residential Open Building, (2000), p. 70.

39. Ibid., p.23.

40. M. Maaskant, and E. Schreurs, "Towards a Pluriform Maxihouse", OASE, Vol57, (2001).

41. S. Kendall and J. Teicher, Residential Open Building, (2000), p. 146. https://www.uceb.eu/DATA/CivBook/43.%20Residential%20Open%20Building,%20Stephen%20Kendall%20and%20Jonathan%20Teicher.pdf

42. M. Kazunobu, The efforts to develop longer life housing with adaptability in Japan,(2016) Elsevier, doi: 10.1016/j.egypro.2016.09.124, p. 663.

4. Method
Methodology

Yet again, the interest of this paper is to find Toolkit Models that use specific communication tools to encourage participation and remote control. Therefore, the research methods consist of 3 main stages, each deconstructing toolkit contents by identifying the basic communication tools. The first stage is to understand the socio-economical context of the toolkit so that we can comprehend if legal or technical advice included in the toolkit contributes to user's control, to finally compare it with the participation process that most of the time is developed along the side of the toolkit. In the second stage, to be able to utilize the knowledge, we need to document it and explain how the handbook, the drawn and written information in the toolkit contributes to the dweller's empowerment. Lastly, to define the communication of toolkits, we need to summarize the findings in a form of communication models, which gives a quick comparison of all the toolkits so that they can be easily used for creating a toolkit in the future.

A qualitative type of research was chosen.

1. Methodology steps to deconstruct a toolkit:
    1. Toolkit analysis
    1.1 Socio-economical context
    1.2 Legal and technical advice
    1.3 Participation tool

2. Reflection of handbook guidelines on spatial entities of the design
    2.1 Project description

3. Utilizing the findings of techniques into Toolkit Models

The method to analyze study cases is a comparative analysis by difference. It is important to note that 4 study cases were paired up to be compared, they were grouped based on incrementality type, as follows there are 2 self-help and 2 support-infill case studies in each pair. Even though the cases were chosen based on carefully developed selection criteria, they are a small sample of what was done before. This research does not intend to rediscover, it is a supplementary comment built on the legacy of the existing knowledge in the field. We will discuss, among other things, a reflection of guidelines in the space and the relation with participatory process involved.

5. Case studies
Results

Study cases are as follows:

1. Skjettenbyen's Handbook. Skjetten Town
2. Manual on Self-help Housing.Hogar de Nazareth
3. PSSHAK. Adelaide Road
4. KEP. Tsurumaki -3

Self-help
Support-infill

5.1 Skjettenbyen's Handbook. Skjetten Town

Niels Ole Lund,1964, Oslo

5.1.1 Socio-economical context

The aim of the planners: Flexible housing. In the post-war atmosphere, Norwegian society required fast pace change, fighting orthodox modernism and nostalgic neoconservatism. PAGON, the Norwegian chapter of CIAM, adopted a strictly structural position to adopt the underlying economic status of the society and translate it into architecture.[43] Both flexibility, and affordability were to be brought through a modular grid that was spatial as well as structural. However, for this to succeed the users had to have a handbook guiding them to play with the grid. The handbook had to be prepared by a multidisciplinary team to avoid the old-fashioned paternalistic model of postwar planning.[44] Through a competition organized in 1965, a proposal by Nils Ole Lund was chosen and built in 1974. The project was a reflection of the notions of personalization and flexibility as a part of the Scandinavian Functionalism that was so popular in Europe throughout the 70s and 80s.[45] The very flexibility was achieved with a 200 pages long manual, which was essentially a self-help handbook. The project began by defining standardized plot divisions, assigned to future residents - families, concluding with 2000 housing units, and 6000 users. Each family could choose plots based on their needs, regulated by housing type, as the Skjettenbyen's handbook says.[46] The task was to set a framework, while residents were given a lot of freedom as a part of the plan to achieve diversified space. Users were able to add their extensions once the project was officially "finished". It is important to note that we should rather say, the project was never finished since it continues to develop through the years with the residents' own hands.

43. M. Hvattum, "Nordic Nonumentality", Nordic Journal of Architecture, no.2, p.8.

44. Ibid., p.9.

45. N. Lund, Skjetten, Norway. Arkitekten, Vol.75, no.10/11, (q973), pp. 185 - 195.

46. N. Lund, A comparison between the housing schemes in Skjetten and Tinggarde, Arkitekten, Vol.83, no.4, (1981), pp.84 - 85.

5.1.2 Legal and technical advice

In Skjetten's handbook, only technical advice is provided. The authors begin with explanation of the planning system. There are two types of housing, north or south-oriented, and the entrance is always on either side of the house; however, the handbook does not say why those two directions were chosen.[47] Then modularity is used to explain the plot parcellation and housing unit division.[48] This section includes variations of module extensions[49] to then describe possible usage of the space.[50] The plot size was closely tied to the structural grid allowing different variations of houses by juggling modules along it. This is possible due to the infill nature of walls that one could install in between beams and poles of the structure. Even though architects proposed 15 plans, the flexible structure allowed residents to come up with new proposals that cannot be seen in the *User's Manual.* At this point, it is important to mention that, the houses are the same type - row houses, but vary in small and big scale details like the presence of a greenhouse, two-storey space, rental rooms, balconies, different configurations of living rooms and bedrooms (Fig. 2).[51]

The order of content was derived from the table of contents in Skjetten Housing's handbook.

1.Explanation of planning system
2.Description of structural system
3.Infrastructure and equipment such as sanitary or electric installations
4.Furnishing, materials, and maintenance
5.Climate of the house
6.Finishes and extensions
7.Parcellation of plots, and aggregation
8.Outdoor facilities
9.Gardening
10.Planning the garden
11.Use of balcony

47. N. Lund et al. Skjetten-haandboka, (1974), p.6.

48. Ibid., p.9.

49. Ibid., p.10.

50. Ibid., p.12.

51. M. Boguslawki and T. Holst, Adabtable row housing in Norway. Architecture Design, Vo.l44, no.10, (1974), p. 544 - 659.

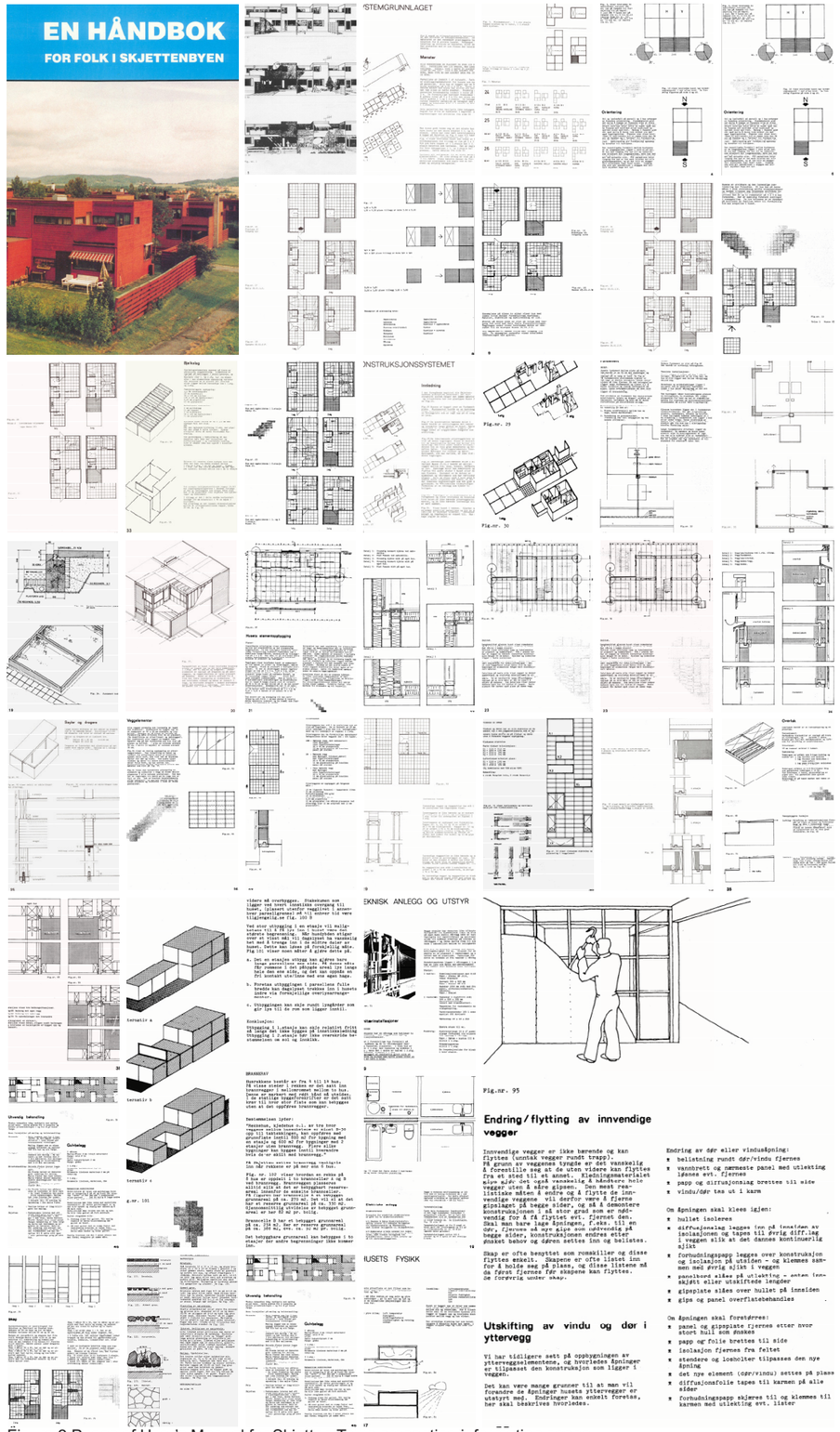

Figure 2 Pages of User's Manual for Skjetten Town presenting information scope.

Figure 3 A comparison collage of drawings from *Skjettenbyen's Haandbok* and photographs of Skjetten Town. That is to show how, at first sight, information from the toolkit were used in the project.

5.1.2 Legal and technical advice

5.1.2.1 Description of structural system

The structural grid was used to start aggregation of the plots. Between each one of the two module types, there is a structure line of 0.1m width. This is where columns, beams, and structural walls are to be placed. A technical description of the foundation is provided. It is detailed and includes the thickness of floor layers and material tags. Then it is followed by information on what mustn't be removed (Fig. 3)..[52]

52. N. Lund et al. Skjetten-haandboka, (1974), p.17.

" This insulation must not be removed. A row of concrete slabs lies along the foundation and then to keep insulation and the right terrain level in place. This concrete slab row must not be removed immediately. Along the outside of the edge carrier is a drainage charge."[53]

53. Ibid., p.17.

Then a description of railing, windows, and door joinery follows.[54] Hereby, Lund advises on continuing insulation on the edge of the door in case of extending the foundation and existing construction. Lastly, this part is finished with a short list of advantages of the foundation and elevation drawing of the wall structure (Fig. 3).

54. Ibid., p.24 - 32.

5.1.2.2 Infrastructure and equipment such as sanitary or electric installations

The proposals for different configurations go to the point of reinstalling washing basins in the bathroom and laundry room.[55] Then there is a description of electric installation, in which there is information about the purpose of every cable.[56] Lastly, there is brief information on how to arrange kitchen furniture, including both the cupboards as well as a sink that shall be close to the water installation.[57]

55. Ibid., p.40.

56. Ibid., p.41.

57. Ibid., p.55.

5.1.2.3 Furnishing, materials, and maintenance

This chapter starts with instructions on how to change and move interior walls. The author recalls the "most realistic" way to do it.

"Should you just make the opening, e.g. to a door, remove as much plaster as necessary on both sides, change the construction as desired, and join and load."[58]

58. Ibid.

An explanation of how to replace a window or mandrel in the outer wall follows and the chapter ends with a short diagrammatic description of, for now, just the volumes of extension variations that could be done on the second floor.[59] Those are followed by axonometric drawings with fewer detail however, picturing more advanced extensions. Now there are two rows of 3x3m modules instead of just one on the second floor that is supposed to create space for the balcony.[60]

59. Ibid, p.57 - 59.

60. Ibid., p.60.

5.1.2.4 Gardening, planning the garden, and use of balcony

This part starts with a cross section of plants and profile drawings of stones to inform the user about nearby greenery that could be planted in their gardens. Every part of the handbook advocates for the individuality of users by proposing options that are various in the greatest detail. Even in the aspect of gardening, this rule remains, there are propositions for possible floor patterns in the terrace,[61] different flowerpot configurations as well as a selection of best-suited plants.[62] There is also advice on where the greenhouse orientation and which greenhouse type is best suited for the specific location of the plot (Fig. 3).[63]

61. Ibid., p.61.

62. Ibid., p.85.

63. Ibid., p.95.

5.1.2.5 Parcellation of plots, and aggregation

With the aggregation, we come now to the next level of multiplication - the urban plan. The aggregation process is the N-S direction, on a loosely assigned grid to the terrain that was specifically built for it. As mentioned, the plots were the same size which made the multiplication possible. The main rule of aggregation is that one cannot build a detached house, that is because every two houses shared a prefabricated plumping unit. As follows, every plot has a mirrored neighbor.

5.1.3 Project description
Skjetten Town, Niels Ole-Lund, 1965-1974, Oslo, Norway

While the aim was to achieve user-defined flexibility, it has to be mentioned that the experiment didn't go entirely as the architects had planned due to conflicts with local planners that led the team to lose parts of the original plans. In various journals from the 80s and 90s, we can read about Sjetten's failure in motivating users' participation: "it is surprising to see how little the resident's initiatives have actually shaped Skjetten. The variation and local richness that we hoped for has not emerged."[64] The carefully crafted rules left a feeling of rigid system.[65] However, if we analyze the extensions made by inhabitants, we can spot a lot of initiatives, it is just that they were not planned out in the concept or the handbook, like the greenhouses that emerged in the backyards, garages in the front of the plot or completely new typology types.[66] It hinges to think that the manual was the catalyst for the participatory initiative of the resident, after all it encouraged action despite the fact it wasn't actions planned by the designers.

64. M. Hvattum, "Nordic Nonumentality", Nordic Journal of Architecture, No.2, p.9.

65. N. Lund et al. Skjetten-haandboka, (1974), p.7.

66. Ibid., (1974), p.6.

5.2 Manual on Self-help Housing.Hogar de Nazareth
United Nations, 1964

5.1.1 Socio-economical context

While, in the North of Europe, the self-help was mentioned in the context of flexibility, architects of the Global South were more concerned with work in practice and participatory aspects of it, hence there must have been an everlasting manual for self-help. Originally, the first ideas for the journal cropped out in 1954 when it was agreed that architects and planners in developing countries must be kept up to date with relevant professional expertise elsewhere in the world.[67] The manual emerged in the atmosphere of the need for fast and affordable building methods in the Global South. The United Nations has been concerned about low-cost housing since 1947 when the Social Commission recommended a series of studies on this matter. The "self-help" in the title was the answer to the slow pace process that is characteristic of countries where citizens don't have monetary means to build with the help of constructors, specialists, etc..[68] For instance, the example project originated because the poor did not have a chance to apply for housing due to lack of information, which ultimately made the selection of participants a very important point in the process. The NGO wanted to help with a project in which the disadvantaged could access both land and housing; therefore the city council came up with the initiative to find candidate families, through direct "open call" contact with the locals. As part of the selection process, the social workers visited the places where families rented a room or lived with relatives. From the semi-structured interviews, we realize that the questions were highly selective. A community member explains how the visits were implemented. "The social workers asked if we were poor, the family situation, and if you had color TV you were out of the project. The families had to be poor in order to become project beneficiaries''.[69] For the selection of families, the community committee visited first the candidate families to evaluate their living conditions; and then the social worker did a second visit to validate the information. It seems that the selection criteria of beneficiary families started very strict, and were modified for later project phases.

67. United Nations, Dept. of Economic and Social Affairs. "MANUAL ON SELF-HELP HOUSING." Ekistics 17, no. 103 (1964): 375–84. http://www.jstor.org/stable/43613400.

68. Ibid.

"... it must be recognized that, even under the most favorable conditions, it may be a very long time before sufficient progress has been made to permit the use of adequate economic resources for such social goals as better housing and improved community facilities."

Manual on self-help Housing, p.iii, 1964.

69. I. Arroyo, Organized self-help housing as an enabling shelter & development strategy. Lessons from current practice, institutional approaches and projects in developing countries. (2013), Lund University, p.120.

5.1.2 Legal and technical advice

The order of content was derived from the table of contents in the Manual on self-help Housing.
1. Approach to self-help
2. Selection of families for self-help
3. Organization of construction
4. Administrative organization and training
5. Land and legal
6. Design and use of materials

It often is that toolkits provide elaborate technical advice and little to no legal information on how to, for instance, get a building permit for housing extension. However, this was not the case in the Manual on self-help Housing. The authors distinguished 2 types of legal documents, preconstruction agreement and ownership and repayment agreement.[70] While the first is self-explanatory, the latter includes several actions to be done that were explained with help of subsections: pre-construction agreement, ownership and repayment agreement, resettlement agreement, self-help housing law and regulations, savings associations, and group contracts in different countries of the Global South and North for the sake of comparison. The technical advice was brought by both conceptual and reference drawings (Fig. 4). Since the manual was made for low-income groups, the images often showcased men using their own hands to build with local materials. In the drawing descriptions, we read about methods that were used in the reference projects, but there was no information about calling specialists like electricians.

70. United Nations, Manual on Self-help Housing, (1964), p.19.

Figure 4 Pages of Manual on self-help Housing, scope of information.

Figure 5 A comparison collage of drawings from *Manual on self-help Housing* and buildings in Hogar de Nazareth. That is to show how, at first sight, information from the toolkit were used in the project.

5.2.3 Participation tool

At that time, it was crucial to provide a dictionary of “hows” and “whys” about participation in self-help since there was no elaborated publication that would describe the process of incremental building in the Global South.[71] As follows, the 100 pages long manual was prepared for low-income group agencies to serve with technical and legal advice. Authors underlined the need for the inclusion of participatory methods such as semi-structured interviews, by showcasing 3 steps: Survey of applicants, Analysis of questionnaires, and Selection of eligible families (Fig. 5). Each of the chapters included literal questions that could be asked to the future residents of different projects, this way the text became truly a manual. The selection of the families was a very important point made in the manual. In the subchapter Analysis of questionnaires, we read that it was crucial to eliminate participants whose income was too high. Although it sounds systematic, it was done to provide housing for the families that are the most in need. The elimination was based on analysis of answers and the scoring criteria was: Need for housing; condition of existing dwelling; Skills directly or indirectly related to the building; physical condition and age; degree of acceptance of the program; attitude towards the program; record of experience in community improvement.[72] Then, following the priorities of ratings, participants can be selected. In addition to the selection methodology, the authors proposed preventive methods to avoid misinterpretation of the answers. It is advised to interview in a group setting, for creating a chance for dynamic input of users and interviewers in the conversation.[73] Moreover, further consultations shall be done throughout several meetings in which different topics will be discussed: The establishment of a formal body, the organization of construction, and the beginning of construction. While this whole procedure is time-consuming[74] and takes weeks to be accomplished while going back and forth between the stakeholders, it aims at developing mutual understanding between the parties involved.[75]

“It should be remembered that communication between persons is often imperfect and that messages never mean (exactly) the same thing to the receiver as to the sender, that words or images can never fully represent the thing or idea they symbolize.”

Manual on self-help Housing, p.2, 1964.

71. Ibid., p.1.

72. Ibid., p.12.

73. Ibid., p.13.

74. Ibid., p.19.

75. Ibid., p.21.

5.2.4 Project description
Francisco García, Hogar de Nazareth, Guayaquil, Ecuador, 1990-1998

A global scope requires a global number of case studies therefore, the authors referred to several self-help projects.[76] Amongst them, we read about exemplary projects in Egypt, Brazil, Kongo, and more. One of them could be Hogar de Nazareth, a settlement located in the Northwest periphery of Guayaquil.[77] The project was implemented in 8 consecutive phases from October 1990 to November 1998 with the technical assistance of Coorporación Hogar de Cristo[78], the project was also co founded which is crucial considering the economic situation of the participants.[79] The original housing typology proposed followed the vernacular architecture tradition in the coastal region used by low-income families in the countryside. The incremental growth approach for the original typology consisted of a wooden and bamboo house elevated from the plot level (Fig. 5), in a second step, families were expected to close the ground floor by building masonry block walls to obtain two-story housing, keeping the wooden structure with bamboo walls in the upper floor.[80] That didn’t go as planned, the families lacked control over the decision for changing the original typology with the first stages of the project. It was expected that this typology would be built by the families using the skills learned in the process. Dweller control was not transferred for key activities such as the selection of new beneficiary families which negatively influenced the capabilities and user’s empowerment.[81]

76. Ibid., p.ix

77. I. Arroyo, Organized self-help housing as an enabling shelter & development strategy. Lessons from current practice, institutional approaches and projects in developing countries. (2013), Lund University, p. 139.

5.3. The builder. The architect. The participant
Discussion part I

3 Toolkit Models were obtained from the comparative analysis of Skjettenbyen’s handbook and Manual on self-help Housing, the models are based on the contrasting features of the toolkits. Both are self -help however, the scope of information provided in the manuals, as well as level of user participation, is what makes the approaches so opposite. The first difference becomes apparent when comparing the drawings in the toolkits alone. Manual on self-help Housing by United Nations guides through the process of erecting the house. On the other hand, Skjetten’s handbook proposes not only that, but also guidance on interior renovations, interior design, gardening, and more. One of the reasons for this is an economical disadvantage of people in the Global South. After all building, a place to live is a basic need, while interior design is something that one can afford under the condition of having the time and money. The second divergence stems from the use of participatory methods at different stages of the projects, in Skjetten there was almost no participation involved to assemble the toolkit. Even though architects took into consideration the culture and socio-economic backgrounds of the inhabitants to formulate the design, participation occurred mostly after the project was finished. On the other hand, in Hogar de Nazareth the participation was brought through the preliminary, definitive, and technical phases, specifically toward the end, and resulted in the marrying of two languages: the builder, and the participant. This union shows that the lesser information is provided in a toolkit, the more direct communication has to be involved in the incremental process.

5.4 PSSHAK. Adelaide Road
Nabeel Hamdi, Nicholas Wilkinson, 1976, London

5.4.1 Socio-economical context

PSSHAK - Primary Supports Structure Housing Action Kit, emerged in the atmosphere of housing crisis in England. Hamdi, amongst many, attended to help people to build in a cheap and fast way. The toolkit consisting of written instructions and models, not only allowed future residents to be involved in the design of their homes in an informed manner but also enabled them to change the mix of units later in the design process.[82] The very flexibility is yet again the aim of the designers as the mean for social oriented housing that does not have to be a margin topic. With that mindset, PSSHAK is a tool that educates masses about structure of their own home.

"Suddenly, when the housing scheme is well advanced on the drawing board, the brief is changed: the director of housing... wants many smaller units on the site plus two eight-person houses. One of the many flexibilities in the PSSHAK process means that a change such as this simply causes Nabs Hamdi (the architect)... to smile."[83]

82. R. Carr, "Building Up", Design Journal, Vol275, (1971), pp. 31 – 39, https://www.vads.ac.uk/digital/collection/DIAD/id/6910

83. N. Hamdi, Housing Without Houses: participation, flexibility, enablement, (1990) Van Nostrand Reinhold, p.45.

5.4.2 Legal and technical advice

The manual was a great source of knowledge on structural and interior design, in its contents we could see drawings of exploding apartment views (Fig. 6) showing the fixed outside walls with spaces for windows, and the flexible panels inside that could be used for both walls and cupboards. There also would be shown a kitchen, bathroom, and other storage units designed as an integral part of the system (Fig. 7). It all was to guide the residents on what kind of decoration would be used, and what kind of light fittings, shelving, and other accessories would be used in conjunction as the infill part of the support.[84] Inspired by Habraken's support-infill theory, the load-bearing walls are separated from the detachable ones allowing for larger units, including two- and three-story houses and maisonettes. The manual explained how to work with the panel structure of the infill to modify one's home. Furthermore, we can find a planning chart that was used to help prospective tenants design their flats. The panels of kitchen and bathroom walls would contain ducts for wiring, the panels also have an integral vertical channel with bin spacing for internal wiring, fixing shelves, suspending cupboards, or hanging pictures. Once in place, the panels could then be painted or papered; where a detachable steel duct enables services to be placed away from the vertical columns if desired, and cantilevered working surfaces can be placed above washing machines or cookers.[85]

84. Ibid., p.1074.

85. R. Carr, "Building Up", Design Journal, Vol.275, (1971), pp. 31 – 39, https://www.vads.ac.uk/digital/collection/DIAD/id/691

5.4.3 Participatory tool

With the help of the models, details of unit layouts and the partitioning system were shown.[86] These were used to explain the system to possible tenants. Because of the fixed nature of the bathroom and kitchen walls, architects had to reach out to the users for advice. Prospective tenants were called in at the building stage to analyze their requirements and plan their accommodation, it was to establish a research program to see what changes they make to their interiors over a period of, say, five years.[87]

86. Ibid., p.32.

87. "'PSSHAK Mark 2: Flexible GLC housing takes a step forward', Architects' Journal, 161, no.21, 1975, p.1071.

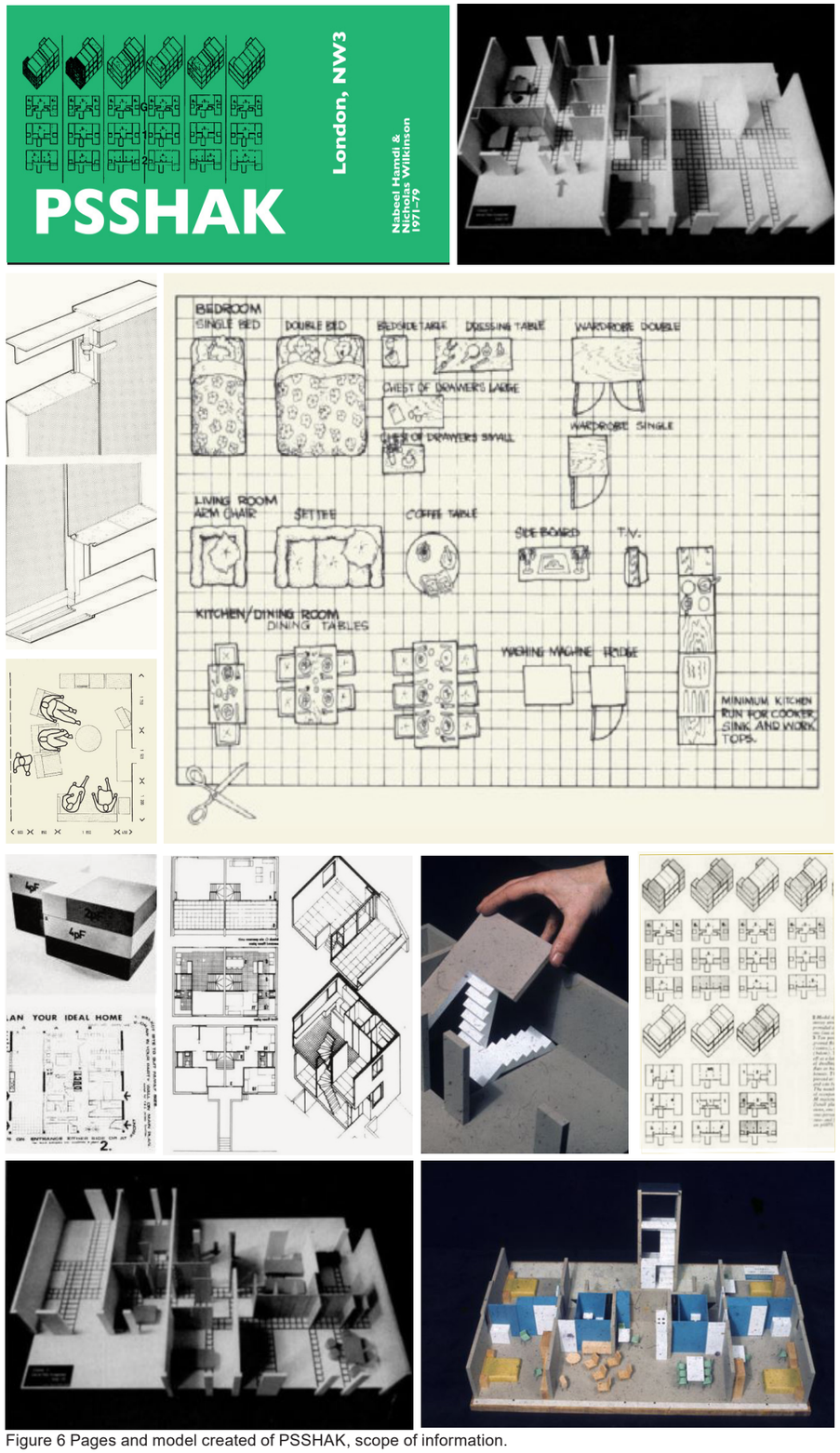

Figure 6 Pages and model created of PSSHAK, scope of information.

5.4.4 Project description
Adelaide Road, Nabeel Hamdi, Nicholas Wilkinson, 1976, London

“One of the critiques of the project was whether the assembly kit (infill) was a desirable way of doing things. Due to the long time scale of the changes made to the infill, it would be possibly more economically viable to be constructed traditionally.”

Habraken referring to Hamdi, Define and Let Go, 2010, p.20.

Users’ feedback suggested that they found the experience of designing their own homes empowering but the system has since been criticized for lacking real flexibility. Other models, such as one by Dutch architect N. John Habraken, allowed residents to express individuality through the exterior of their homes, support. That is to say, not only the infill is the participation-driven freedom of aesthetics and design, but also support belongs to this realm, with the difference that it is communal, while infill is private. In Adelaide Road, the support contains the collective spaces, the entrances, the corridors, and the stair-wells.[89]

‘’You must do what is good for the community - that is our domain. By this, I’m not saying that an architect provides solely the structure, which has to be filled out by others, or that he should not be allowed to concern himself with the aesthetic outcome. Quite the contrary.”[88]

This course of thinking is a response to issues that John Turner would often point out about the support-infill approach. In his radical opinion, the system is exclusively about the structural approach that does not support important mechanisms of participation like community making due to its nature of labor.[90]

88. H. Teerds, J. Habraken and K. Havik, “Define and Let Go. An interview with John Habraken”, Productive Uncertainty. Indeterminacy in Spatial Design, Planning and Management, OASE, (85), p. 8. Retrieved from https://www.oasejournal.nl/en/Issues/85/DefineAndLetGo

89. Ibid.

90. J. Turner, Freedom to build. Dweller control of the housing process, (1972), MacMillan, p.50.

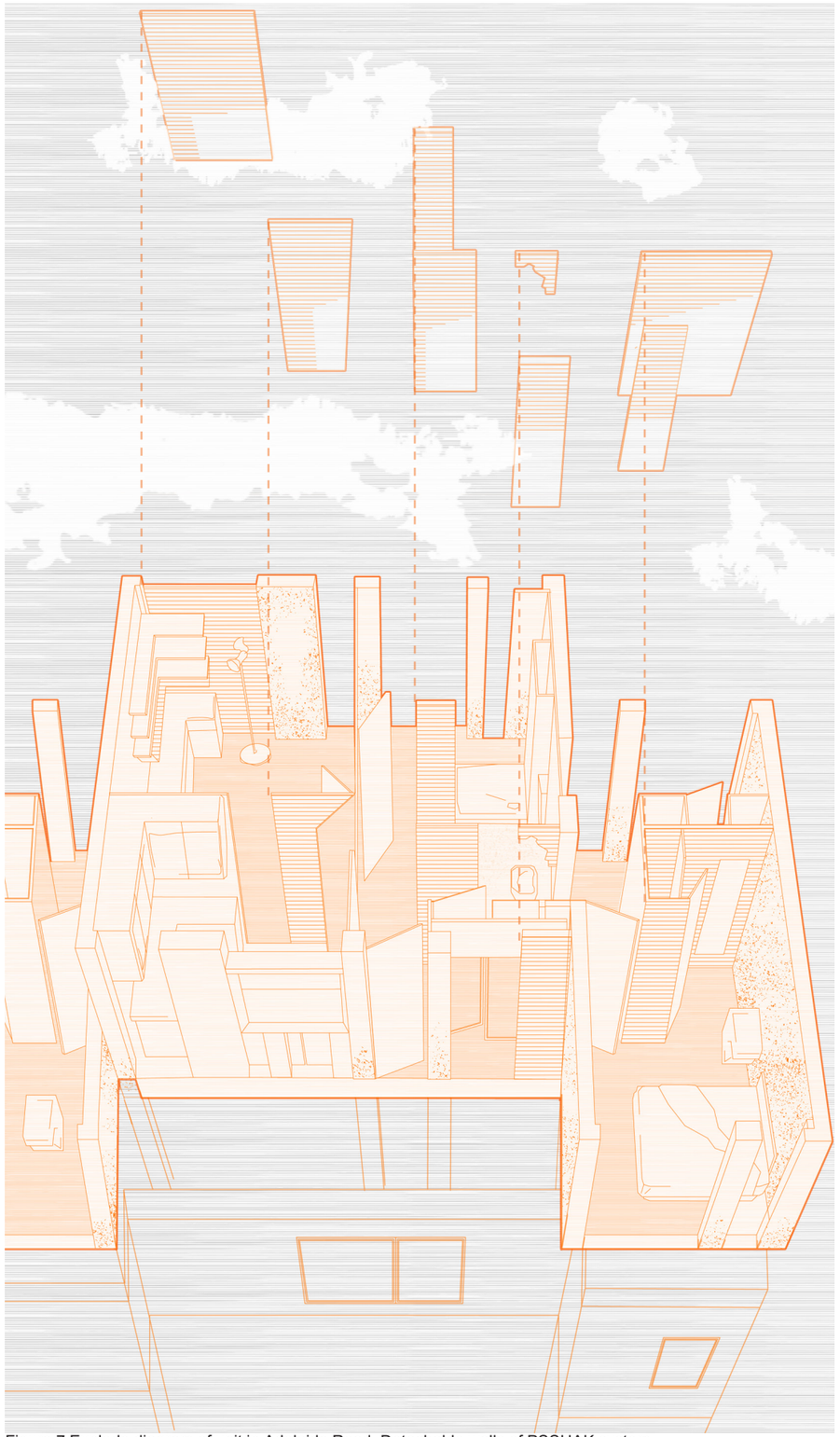

Figure 7 Explode diagram of unit in Adelaide Road. Detachable walls of PSSHAK system.

5.5 KEP. Tsurumaki -3
Hideki Kobayashi, 1982

5.5.1 Socio-economical context

In the 1970s, the total number of dwelling units in Japan began to exceed the number of households, forcing the government to turn the existing housing into a more flexible model to meet diverse residential needs. At the time, many dwellings did not fully satisfy users' daily life needs that emerged due to changes in the family structure and lifestyle. The durability of interior finishing and equipment was shorter than the durability of the base buildings, and the failure to perform appropriate maintenance became a social problem. To overcome these challenges, the Ministry of Construction started the Century Housing System (CHS) as a certification system in 1986 following the research and development of the KEP - KSI Experimental Housing Project (Fig. 8).[91] While *K* in the name "KSI" stands for KODAN which means "public corporation" in Japanese, *SI* represents Skeleton (or Support) and Infill. Additionally to the mentioned issue, it was believed that there will be a shortage of construction workers in the future therefore, the citizen labor had to be educated to build. The manual for KEP has been developing since 1982[92] as a response to the ongoing issues of land ownership law in the country.

91. M. Kazunobu, The efforts to develop longer life housing with adaptability in Japan,(2016) Elsevier, doi: 10.1016/j.egypro.2016.09.124, p. 663.

92. Ibid., p. 666.

5.5.2 Participatory tool

There were several stages of participation in the project. First, architects would meet with the future residents and draw plans together, this meant that participants had a direct role in the conceptual part of the design. Second, there was a series of questionnaires in 1982, 1995, 2005, and 2014, where interviewees were asked about changes that have been done. The questionnaires were placed in the residents' mailboxes. They were distributed to 228 of 234 homes, and responses were received from 58 homes. The results of the survey showed two things. For one, residents have become more willing to live in their units as long as possible as they aged. As they have aged, their interest in permanent occupancy has increased to the point where 67% of the residents in 2014 wished to live in their units permanently. Second, both the KEP movable partitioning system (Fig. 9) and a conventional remodeling system were used to make changes in the room arrangement, which ultimately proved that the manuals developed for the system were useful.[93]

93. Ibid.

5.5.3 Project description
Tsurumaki -3, Satoshi Ikeda , Masami Amino, 1982, Tokyo

In the Tsurumaki -3 estate, there are 192 units in four-story flats and 29 units in two-story terrace houses, many of which were modified by 2005, because the children of those households had already moved out. The KEP system allowed a living room or a private room to be enlarged by moving the partitioning wall and partitioning storage walls separating two rooms, this is at the essence the well adapted system to the changing needs of residents. As children grew, and when they left home, many families used the partitioning system to adjust the room arrangements to fit the changes in their lifestyles. Those lifestyles were strongly motivated by the renovation works that were done. The first type of lifestyle change was when a family moved to a used dwelling unit, and the reason for the renovation was matching the flat to their individual taste. The second kind was strongly motivated by a turning point in the family's life that concluded in the renovation of bathrooms, toilets, kitchens, etc., and other wet areas, mainly because of deterioration over time.[94]

94. Ibid., p. 666

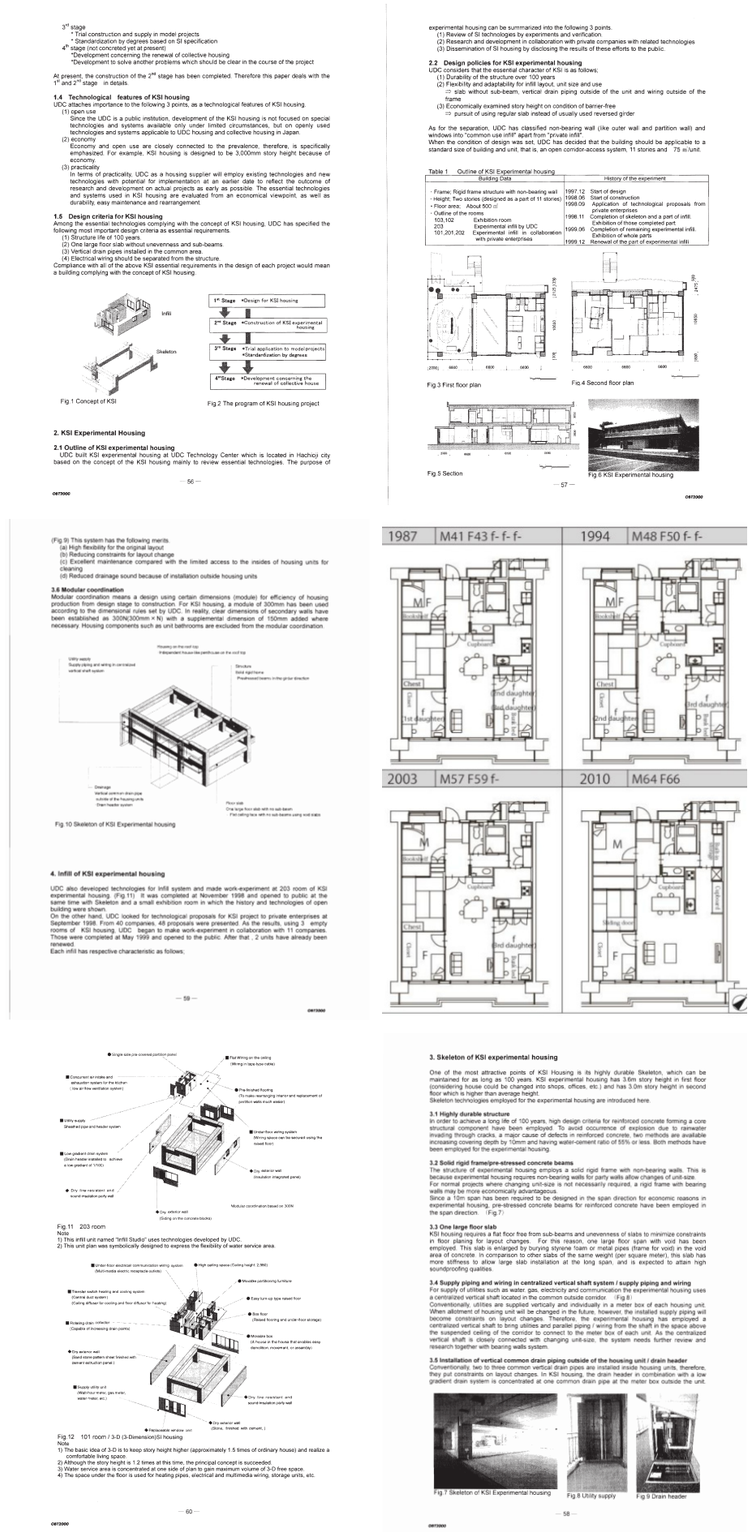

Figure 8 Pages of KEP manual, scope of information.

5.6 The interior designer. The influencer.
Discussion part II

PSSHAK and KEP led to the definition of 2 languages, both are a continuation of the Support and Infill theory of Habraken. Either established support in a form of a fixed skeleton of sort, and the infills were what truly defined the different approach of each. Each case rethinks the relationship of flexibility and infill, while using it to make the design more suitable, and individual over time. Only once, there is freedom for change within reasonable frames of support, the user can truly be liberated. In the case of PSSHAK, the focus was on flexibility for the sake of satisfying the individual needs of participants in an affordable way. The structural part of the system was the materialization of affordability that in combination with the toolkit was supposed to provide the comfort of use. At the same time, the KEP program found notions for a flexible lifestyle; after all, the biggest changes in a family's life are motivated by a birth, death, or leave of a family member. That is then translated into the space of the household. With its system that focused mostly on entirely detachable core walls, it was possible to easily transform the space, which was influenced and has been influencing the lifestyle of families. Even though the participatory tool was used excellently, due to its recurring nature, and was included in the KEP designs, it seems like the manual in itself was not as known among the participants, which may mean that the influence was raised from within the families. Lastly, the large physical and cultural distance between the project explains the differences in the structural approach of PSSHAK and lifestyle approach of KEP, even though they originated from the same place - Habraken's theory.[95] Residents were not struggling with issues such as lack of materials, water, or knowledge access which made it possible for both of the projects to develop successfully. Moreover, the scope of the self-initiative is certainly less challenging than one required for the self-help case studies described before.

95. Ibid., p. 670.

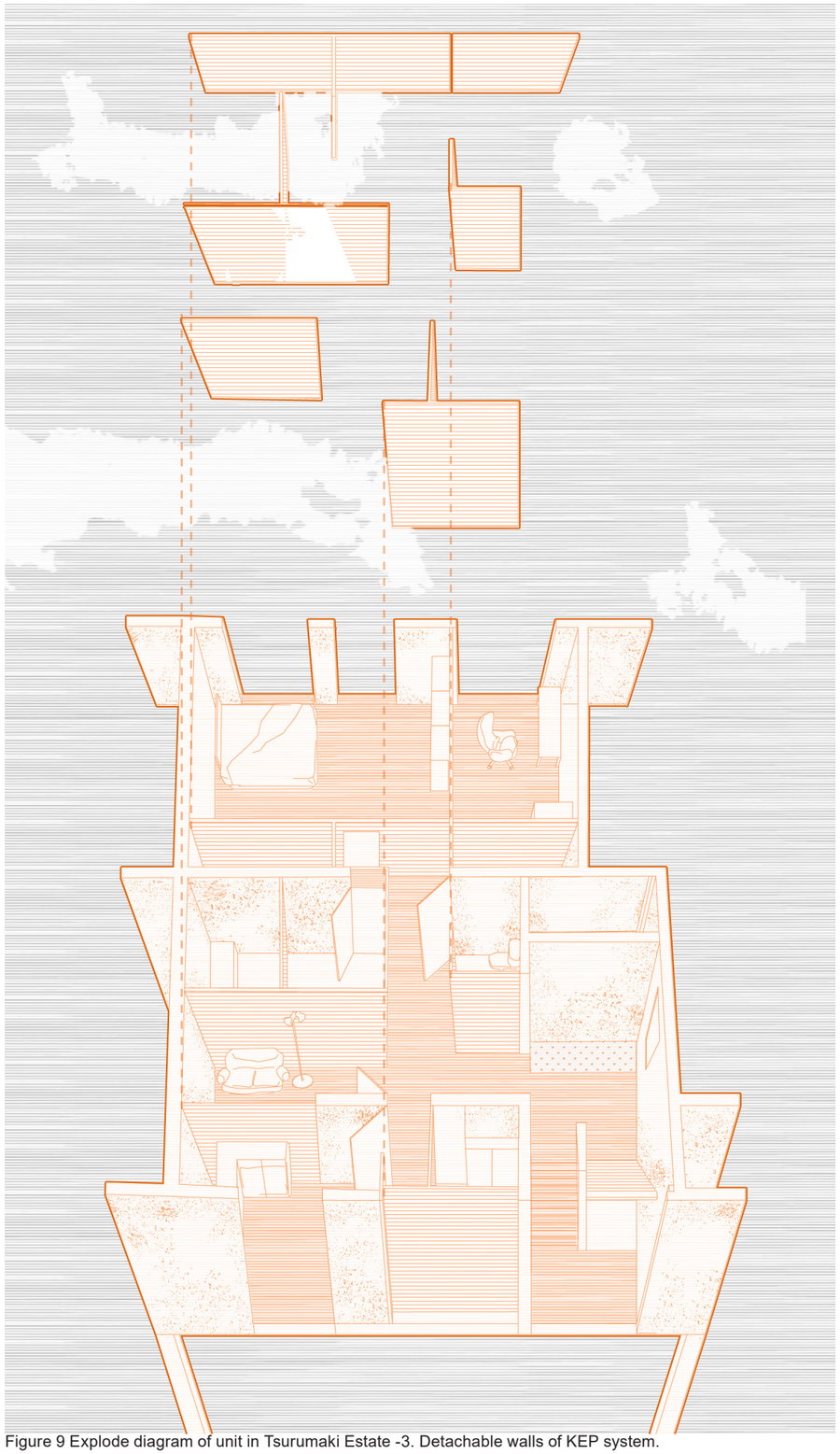

Figure 9 Explode diagram of unit in Tsurumaki Estate -3. Detachable walls of KEP system.

The Builder

Builder's manual takes on a tabula rasa. The users are to emerge houses with the information on various building techniques included in the Builder's toolkit. However, it often appears that there are not enough participatory aids involved in the very first stages, such as setting up the foundation. Continuously, families with low dweller - control over the first stage of an organized self-help housing process miss developing capabilities in planning, management, and decision-making. A hierarchical and/or paternalistic approach to any process where the poor families are not considered partners for the whole process leads to a low degree of dweller - control, and this limits the possibilities of the families to enhance their capabilities.[96] When people are not considered equal partners, they do not exert control; which motivates them to develop collective agency and collective efficacy.[97] The case of Hogar de Nazareth has shown that due to low dweller - control during the first stage and medium dweller - control during the second stage of the process; dwellers had low decision-making power.[98] Then, the process becomes a burden to their self-esteem.[99] This stems from the fact that only after, having properly asked questions, to properly selected participants, we can deliver particularly needed knowledge to continue with self-help process.

96. I. Arroyo, Organized self-help housing as an enabling shelter & development strategy. Lessons from current practice, institutional approaches and projects in developing countries. (2013), Lund University, p. 151.

97. Ibid.

98. Ibid.

99. A. Bandura, " Personal and collective efficacy in human adaptation and change", Advances in phsychological science, Vol.1, (1998), pp. 51-71.

The Architect

This Toolkit Model gives the biggest scope of freedom for the participant. It allows renovations from small to big scale, from the exterior to the interior. Great scope of information in combination with high economic status of users of such manuals concludes in well developed self-help areas. The handbook is the cataclysm point for the original initiative of the dwellers, which constitutes the aim of participation, with the difference that such participation may not always be predicted by the architect. However, one could argue that it even is a better turn of events since it proves that the users are given enough information and legal freedom to become architects on their own. The manual advocated for user personalization and while the initial design may not communicate it with appearance, one cannot see a similar house, which is mostly indeed due to dwellers' initiative. After all, The motto of Skjetten Housing was initially *Variation-Order-Community-Privacy*[100] which could describe well the goal of The Architect. The aim is to build a truly social living area, which means cheap dwellings, a diverse group of inhabitants, and enough educational institutions, green areas, and parking spaces and shops. The inhabitants should experience a sense of belonging.[101] With such ethical and political engagement and experimental approach to the architecture, the flexibility approach for incremental housing is still a relevant matter that not only provides a more democratically driven design where the user has not only the role of a builder but also, is The Architect with the power to make design choices.[102]

100. N. Hamdi, Housing Without Houses: participation, flexibility, enablement, (1990) Van Nostrand Reinhold, p.45.

101. N. Lund et al. Skjettenhaandboka, (1974), p.7.

102. M. Hvattum, "Nordic Nonumentality", Nordic Journal of Architecture, no.2, p.10.

The Participant

User feedback is the catalyst of Paritipant's toolkit. In this form of communication, curetted questionnaires are in a manner that emancipates users' thoughts and needs. The simple talking, the conversations need to happen constantly at every phase of the project, specifically during the beginning. It acts as a focal point of community making which underlies the success of mutual understanding between the participants, the toolkit, and the architect. The skill of the interviewer in really discussing the is important at this stage. Once again, though, nothing should be taken for granted, and further correcting of the human communication process is carried out in subsequent steps. No one will know how complete and successful this process has been until the houses are built.[103] The crucial aspect of The Participant's toolkit is to check with the residents periodically on the course

103. Ibid.

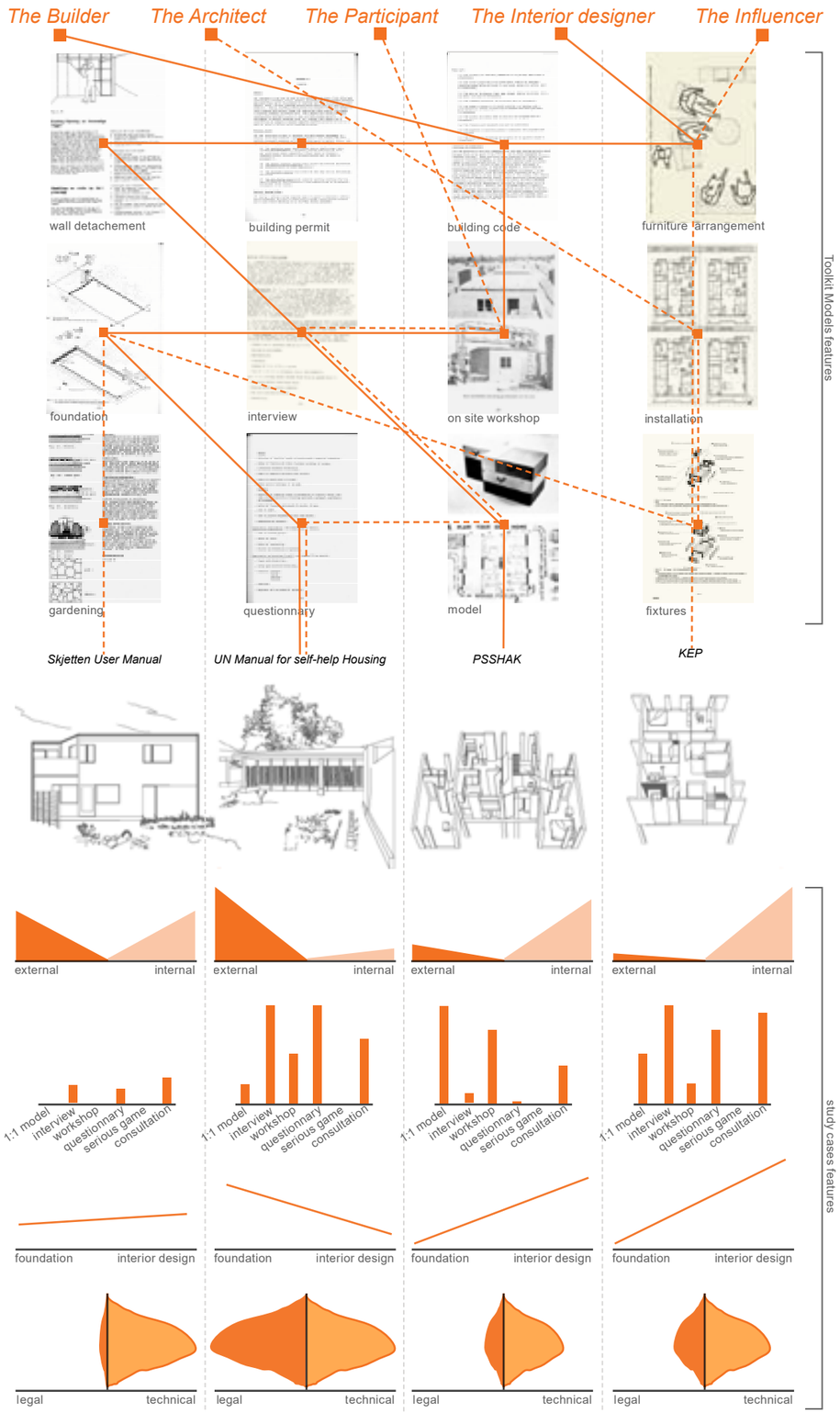

Figure 10 Diagram showing 2 conclusions: Singular features Toolkit Models based on case studies and features of study cases in the form of charts.

of development and update it accordingly on the “whys” and “whats” of residents. The last aspect of this language is the proper selection of the people you are speaking to, the users. It may seem prudent however, the case study - Manual on self-help Housing - shows that if the project is supposed to help, participants have to be carefully chosen based on their economical situation, state of knowledge, and willingness to collaborate. These efforts have to be forwarded to those in need of housing,[104] It is so important to ensure that those who need it most get housing. It stems from the high level of participation at every project phase which allows The Particiant’s toolkit to work best in the Global South, where people are at an economical disadvantage.

104. United Nations, Manual on Self-help Housing, (1964), p.19.

The Interior Designer

By the means of flexible design, the space can be easily transformed into a desirable interior bounded by modular elements. The resident is, at first, a builder, who fixes the boundaries - walls to then personalize the interior to their own needs. Perhaps, why the approach of support and infill works, is because the scopes of the dweller’s control and the dweller’s abilities align. It is in contrast to the Toolkit of the Participant where the scope of freedom and tasks are much greater. While infill In Adelaide Road is private, the support is communal. The collective space, the entrances, the corridors, the stairwells. As follow, the essence of this Toolkit Model could be highlighted with Habraken’s quote:

> *“A decade ago we were stuck in an ideology, in which self-expression and the originality of the architect were declared sacred. For a long time that was the very cornerstone of the profession. (...) Now, happily, there is a revival of interest in the question that we posed about the communal system, in which everyone is personally free.”*
>
> *Habraken, J., OASE (85), 2011, p. 8.*

However, many came up with the criticism of the support-infill approach. John Turner said that the ditchmony between these two only increases the domination of the top over the down which brings the light to thinking beyond the conceptual. Turner pinpoints the need for continuous dialogue between the researcher and community, as well as constant reflection on the research methods for doing, learning, and teaching placemaking and urban development.[105]

105. J. Turner, Freedom to build. Dweller control of the housing process, (1972), MacMillan, p.50.

The Influencer

When it comes to toolkits that cultivate support-infill theory, the most freedom is given in the latter stages of the project, where user control shrinks, ironically. The resident builds the interior to then personalize it, but there is no power in decision-making about the project itself. In the book, The Structure of the Ordinary “change” is an essential characteristic of the dimension of time in the built environment.[106] That leads to the dilemma of the exercise of power: who has control over the design and construction process.[107] Here, participation only begins after construction, which results in the influence of users’ lifestyles on the project and its toolkit. In the case study, Tsurumaki Estate -3 questionnaires that were answered by participants had the deciding role on the adjustments made in the toolkits, which leads to the conclusion that even though little user control can bring big changes if it is played well. After all, support is the rule by which residents have to play. Establishing a truly participatory process where users have the most opportunity to speak up works well as long as there are economic means to get involved. If we compare Tsurumaki Estate with the case study of Hogar de Nazareth, it becomes clear that if participation was included only in the later stages of the project, it would be most likely to fail due to an information gap.

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