Community engagement as a sustainable tool in transforming mass housing urban structures. Case study of Petržalka estate, Bratislava, Slovakia.

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Abstract. Engagement of public in the planning and design of our cities is one of the most basic foundations of the democratic society and is directly reflected on the quality of life of each individual. The public participation is necessary at least from two reasons - firstly, in order to define the real needs of local residents, and secondly, to gather feedback on the top-down of proposed regulations and planning documents. Especially in the countries after transition, a particular environment of panel mass housing estates presents a specific challenge to meet these trends. These areas can be characterised by lack of identity and individual attachment of local resident to their everyday spaces, the lack of demarcated public/private spaces - or, in other words - the plethora or "shared" no-one space. This leads to serious problems for city officials. The lack of organised communities means very difficult position in acquainting the inhabitants with development of the district, for example the area of central axis which was planned as main transport and facilities corridor but which was never built and so today has become a huge abandoned space. In Slovakia, at the same time, the areas of mass housing areas represent at least 70% of the whole housing stock, and the methods of their sustainable transformation are therefore an urgent topic for many urban planners and municipality offices. The proposed article deals with the case of redevelopment of area in mass housing estate in Petržalka, part of the capital of Bratislava in Slovakia, based on the piloting various different methods of community involvement and community building. Furthermore, the article contributes to the general topic of finding the balanced tools of planning and regulating the sustainable city development and applicability of proposed methods as a standard urban design and planning tool from the municipal level.

1. Introduction
Engagement of public in the planning and design of our cities is one of the most basic foundations of the democratic society and is directly reflected on the quality of life of each individual. The public participation is necessary at least from two reasons - firstly, in order to define the real needs of local residents, and secondly, to gather feedback on the top-down of proposed regulations and planning documents. This trend is supported also in the praxis as well as in academia. As defined by New Urban Agenda [1], there is still a great need of public participation in order to achieve more rigorous method of public scrutiny and ensuring a sustainable way of developing our cities.

Especially in the countries after transition, a particular environment of panel housing estates presents a major challenge in addressing aforementioned trends. Mass housing estates can be characterised by
lack of identity and individual attachment of local resident to their everyday spaces, of the lack of demarcated public/private spaces - or, in other words - the plethora or "shared" no-one space.

2. Community planning theories and panel mass housing

2.1 Community planning and panel mass housing public spaces

Community is most often perceived as a group of people connected through a specific geographic location. Especially when urban design processes are concerned, the community can be defined as a voluntary association of actors, who lack common organizational management, but are united (if) by instrumental goal or a value [2]. Often also is community depicted as in comparison with privileged, or as an unrepresented, vulnerable. The relationships among the community influence the image of a place, but also vice versa - the quality of public spaces influences also the relationships among its users. The community of a people who are interested in their environment is a profound precondition when creating a good quality environment, especially public spaces [3].

Community development was established predominantly after the WWII and started in US context, and for decades was a major trend especially in planning practices [4]. It is not a unified methodology; it may include wide range of activities, such as activities leading to economic growth, housing provision, provision of other (non/commercial) services, as well as improvement of public spaces. In the latter, the attempts focused to beautify parks, recreational activities, streets public spaces. The idea lies in the process of “neighbours learning to rely on each other, working together on concrete tasks that take advantage of new self-awareness of their collective and individual assets and, in the process, creating human, family, and social capital” [5]. The interest in this topic raised also recently with growing body of literature on the importance of stronger civil society and community life.

Public spaces in panel mass housing in post-socialist cities of Central and Eastern Europe present a specific challenge for urban designers and planners. In the era of socialist city building, public spaces played a significant role. The soviet theory, of a new “socialist man” together with the CIAM-inspired design and planning created massive public spaces, such as parks and plazas, with ceremonial and disciplinary character (rather than democratic). In the new type of housing structures - superblocks - designed as a rejection of discouraged individualised housing - had open spaces also a particular character. Over scaled, uniformed and often left unfinished, without services, amenities or other necessary urban furniture.

After 1989, massive privatisation of all spaces and properties took place. Housing units, divided into individual flats, became in the hand of individual families, while public spaces were transferred to different city offices and institutions. Many of the spaces in between the building are still left to the uncertain state of ownership. The change of ownership was accompanied also with the change of management of these spaces. Some authors describe these processes as a “loss of public spaces” for post-soviet cities.

Currently, these changes are still visible and present one of the main urban design challenges - the first-time ownership, melting with the onset of individualism, has led to discouragement of maintenance and use of the public (shared) spaces in these housing estates. The result in physical fabric can be observed on rapid degradation of these spaces and their individual elements, and the limited use of them by local residents, mostly focused only on necessary activities.

2.2 Situation in Slovakia

In Slovak Republic, the areas of mass housing areas represent at least 70% of the whole housing stock, and the methods of their sustainable transformation are therefore an urgent topic for many urban planners and municipality offices. The topic of participation is already established in the planning practices and legislation, through standardized participation through legally binding building approval
processes. However, what can be observed are new, piloting practices of or, establishing a participatory budget in through city office, or piloting methods on selected development project, especially in the capital in Bratislava, connected also to the urban design competitions focused on these areas. However, none of these involve also the element of community development, as is the case for analysed study.

At the same time, the situation is being balanced with the raising impact of activism, especially through the activities of non-governmental sector. They often get also major support from local politicians. Furthermore, the city districts offer various financial tools to stimulate such activities and raise the impact on the environment. Many times are partners from non-government sector much more effective than formal public institution, offering also the ability to do things cheaper than commercial (private) organizations.

2.3 Methodology
Presented and analysed model of public participation and community engagement have been developed predominantly informed through various European-based literature and experiences [2], and empirically validated on the redevelopment strategies of the Terraces, in the context of panel mass housing in Petržalka, in the capital of Slovakia, Bratislava. These activities took place from June to October 2018 and involved almost 80 participants (see Table 1). The presented research itself is based on direct experience of the authors, photo and video documentations and interviews with various stakeholders.

| Event / Activity            | date          | Number of participants | Problems/ issues to be solved | Outputs                                               |
|-----------------------------|---------------|------------------------|-------------------------------|------------------------------------------------------|
| urban walk and facilitated discussion | 26.6.2018 Tuesday | approx. 15             | to collectively walk around the terrace and define the negatives and potentials of concrete micro spaces | Problems of the residents according the area and daily usage of the terrace |
| discussion about solutions  | 3.7.2018 Tuesday | approx. 12             | to collectively define the atmosphere and basic design principles for the project of revitalisation of the terrace | by using red and green dots as good and bad marks in combination of individual and collective discussions we were able to define the perception of residents how they see the future atmosphere and design of terrace |
| presentation of the proposal | 17.7.2018 Tuesday | approx. 13             | explain the proposed design and define the primary changes we take care this year | defining the most important changes which should be done this year (2018) |
| Jane’s walk                | 7.8.2018 Tuesday | approx. 15             | To present positive examples of local heroes and to motivate people by success stories in the area. | two examples of community gardens which were organised and created by local heroes |
| working Saturdays //       | 28.7.2018 11.8.2018 18.8.2018 25.8.2018 8.9.2018 15.9.2018 29.9.2018 | usually around 7 participants, total range between 1 - 20, | to gradually realize the proposed changes and improve the public space of terrace; secondary target was stimulate social contact between the neighbours and create space to get to know each other | colour painted asphalt surface, painting of the waste boxes, planting the climbing plants at the bottom of the columns under the terrace, design tailor made steel |
6.10.2018

| 6.10.2018 | construction with wooden pots and plants on terrace, painting of the steel railing, cleaning of concrete railing |
| Socialising events, Opening party | 13.10.2018 | approx. 40-50 | Socializing event - festival oriented on dissemination of the result - 1st phase of revitalization, explain the process and the general need of good public spaces. |
| Socialising event - presentation of the process to the guests, competition for the Best cake, socialization of the neighbours and their friends, food & drinks |

### 3. Terraces of Petržalka

#### 3.1 Modern history of Petržalka

Socialist era in Slovakia brings huge amount of new housing stock. Panel housing neighbourhoods of enormous sizes were built in many cities all over the country. Without any doubts we can say that Petržalka (City district of Bratislava) is the biggest one in Slovakia (If we consider the population, Petržalka would be the third biggest city in Slovakia with over 100 000 inhabitants).

For the design of Petržalka there was organised international competition to find the best solution for the new city district Petržalka in 1966. The task counted on total destruction of previous rural character of the area and building a new modern city district for 100 000 people. Competition has no winner. Because of very rough period in terms of politics and forming of the state there was no more time for planning and the team of architects and engineers from “Stavoprojekt” with their leaders Jozef Chovanec and Stanislav Talaš have started the engineering part based on the concept of three Slovakian urbanists Tibor Alexy, Ján Kavan and Filip Trnkus (3rd prize in international competition) [6].

Concept was based on central axis with intense car traffic on ground level from both sides developed with 14-stories housing buildings with vertically segregated, elevated sidewalks connected by pedestrian bridges on central public transport metro line (underground) and buildings with public facilities built above. Unfortunately, eventually in the process of realisation, the design of buildings was prioritised to design of public spaces. Furthermore, since the concept was never accomplished, Petržalka has not achieved the quality of environment as it was planned.

#### 3.2 Terraces - a specific type of public space

Petržalka thanks to its concept of vertical segregation gain a very special type of public spaces – public terraces. They might be described as elevated linear public spaces with entrances (not always) to the ground floors of housing blocks and (always) with entrances to the shopping spaces. There are more types of these spaces according their relation to terrain (see figure 1, figure 2). They might be connected straight to terrain, moved half floor above the terrain, or one floor difference over the terrain. They are always connected to the ground floor with ramps and staircases. Unfortunately, nowadays they are often in bad technical conditions, sometimes even turned down or closed for public because of the safety.
However, fifteen years ago they were quite liveable spaces with various shops and facilities possibilities in ground floors and first floors. With arrival of the shopping malls and supermarkets many shop owners were forced to close their businesses because they were not able to compete with low prices and services. Some terraces get abandoned and in combination with decreasing of the technical conditions they became unfriendly and dangerous spaces. It led to total lack of interest of the inhabitants who still use more back entrances because of short track from car to their homes than front entrances from the terraces. Further signs of lack of interest are also small trashes, filters from cigarettes, thrown from flats above the terraces, or even drug dealers or drug tools such as drug injections on the ground. The space is almost totally without social control of its inhabitants and ground floors are still more often covered by rulings.

3.3 Challenges for terraces
Problem with terraces is well known for a long time but city / district administrations and also other stakeholders who are partially responsible for these spaces are still not able to find working solution. The main issue is the difficult situation in the ownership. Some of the terraces or their parts belong to the city, others to city organizations or private owners and many of them do not even have a building permission. The latter ones in fact don’t belong to anyone. Situation gets even more complicated when under terraces are in some cases built illegal garages in ownership of the inhabitants or shop owners living in the area.

City is trying to find a solution for legalisation of these terraces in order to allow investment in their renewal. One of the proposed tools is city/district financial mechanisms which might refinance up to 80% of the renewal of the terraces. This contribution can be as much as 300 000 EUR, while the rest of the investments is paid by the owners.

Most of the projects have been so far focused on the improvement of physical spaces - the renewal was done in terms of change of the hydro-isolation, or new concrete layers, partly solving problem with bad technical conditions and prolonging “the life” of the construction, but still not solving the very basic problems oriented on social cohesion and increase of the quality of public space with additional value for its users and residents. Nor is this type of solution contributing to the solutions for climate change. Furthermore, the renewed terraces often require further reconstructions after few years over and over.

4. Terrace project “MANES”
A case study of this paper is based on a participatory process of realization of tactical urbanism project on terrace at Mánesovo square in Petržalka. The project was initiated and managed by volunteering architects and a skilled facilitator from Faculty of Architecture Slovak University of Bratislava.
(including one of the authors), joined with an association of flat owners - “MANES”, who agreed to submit for small grant from the city district on the revitalisation of this particular terrace. Grant covered 80% of the investment what made 3 840 EUR from total cost of 4 800 EUR. The rest 20% (960 EUR) was invested by the MANES. The aim was to test easy and cheap self-made tactical (temporary, easy and reversible) changes and by these find and define new solutions that could be done as permanent intervention.

4.1 Participatory planning
As mentioned, is section 2.2., active community participation and development is in context of Bratislava and whole Slovakia a quite new practice. The standardization of these processes is still in a piloting mode, as for all the professionals involved: architects, facilitators, managers, city officials or inhabitants. In MANES, the project included two meetings with chairman of the flat association and further two participatory planning activities with invited neighbours and strangers passing by (for the full preview see Table 1).

First two meetings with the chairman were focus in defining the intentions of the project and planning the organisation of meeting of all association members in order to discuss and approve this project. There were two planning sessions.

4.2 Urban walk and facilitated discussion
First of the specific planning sessions was organised as 'Urban walk with facilitated discussion (June 2018). Urban walk is a quite easy tool suitable for different scales of the project and various amounts of participants. It is the organized in a way allowing participant to discover the public spaces in the area. People are asked to walk as a group to particular points. At each point they discuss predefined questions (these questions differ according the needed outcomes). People are able to share their stories and experiences within the places they visit.

The intention of urban walk was to explore the terrace together, and at each stop discuss its weaknesses and potentials, but also subjective feelings such as memories connected to that space, etc. Actually, with more of the stops done, the discussion got more emotional and participants provided more detail (and also subjective) information. In conclusion, the Urban walk prove to be effective tool to collect big amount of insights and define problems which affects everyday life of the residents.

4.3 Participatory planning meeting 2
The aim of the second planning meeting was to present existing solutions for each problem defined by residents on previous meeting. Attendants had the opportunity to see possible designs based on solutions for places with similar problems in different parts of Slovakia or abroad. Participant could then choose from variety of solutions and asked to explain their choices. The outcome, together with the results from previous meeting, summed up the definition of the main problems for the public spaces and outlined potentially acceptable solutions.

As the main problems defined by the participatory process were lack of nature/greenery on the terrace, dirt and visually unfriendly space, lack of shade, bad technical condition of the terrace, and lack of activities on terrace. These data then became the determinants for design and activity proposal of revitalisation of the terrace (see figure 3, figure 4).
4.4 Proposal
Proposal was based on the data collected from previous participatory planning events (Urban walk, facilitated discussion and defining the solution) and presented it to participants two weeks later. People could come and talk about it between each other or with architects, give some additional comments and vote for the most important solution - change. This helped to fully understand the need of participants and define solutions that could have had potentially the highest impact on the perception of the space. Based on this presentation and talks in combination with the budget, a schedule of works was set up. As “working days” were agreed Saturday mornings.

4.5 Working Saturdays (realisation phase)
The realisation phase took two and half months. There were 8 working Saturdays and two socializing events. Almost each weekend there were residents coming to work on selected solutions. This participation of residents on physical change was a crucial step. Primary aimed effect was to lower the costs of the interventions, so more of the solutions could be done. The secondary effect was to develop the sense of connection of participants with the place, in order to also increase social control in the public space (see figure 5).

Physical changes accomplished involved wide range of activities, such as painting of damaged asphalt surface, cleaning of the characteristic concrete fence at the terrace, painting of steel railing at staircase and ramp, planting of climbing plants under the terrace, installation of wooden pots on steel constructions, planting the greenery to the pots on the terrace.
4.6 Socializing events (realisation phase)
As important results as the results of physical improvement of terrace were the public events specifically organised solely for socialisation and motivation of residents to join the process of revitalisation: Jane's Walk and Opening party. Moreover, these events helped to disseminate the importance of good public space for residents of the neighbourhood and that every space have capability to become good public place.

Initially unplanned, due to organisational issues was one of the working Saturdays substituted by Jane’s walk on Thursday that week in order to keep the rhythm of the meetings. Jane’s walk is neighbourhood walking tour named after Jane Jacobs. It is a free neighbourhood walking (or biking) tour that celebrates and investigates the people (and places) that make neighbourhood great [7]. During the Jane’s walk participants met two women living in neighbouring buildings who took care of front yards of their block of flats. By sharing positive stories of progress from their neighbours, participants got positive examples and motivation.

The most important event was definitely the Opening of the terrace after its revitalisation in October 2019, after almost half a year of the process. Nice weather, public barbeque, music, gathering and competition for the Best cake allowed to show the new active ways of use of the terrace, as a full-featured and liveable public space with special atmosphere and potential for its users. As positive surprise was support of the local shop owners who provided space for posters with invitations, or a company selling the sound system technology lent a great sound-system for the music and microphone, so the event got much more professional character (see figure 8, figure 9).

4.7 Role of stakeholders
During this process all of the stakeholders were asked to participate also in the realisation phase. As shows Table 2, each one had in the process had also a particular role: while city district officials organized the call for proposals, owner of the shopping spaces under the terrace organized the basic sanitation for the terrace residents, who offered to worked physically.
Table 2. Defined stakeholders, their roles and support in the process

| City district officials | City municipality | Residents | Owner of the shopping spaces under the terrace | Shopkeepers on the terrace |
|-------------------------|-------------------|-----------|-----------------------------------------------|----------------------------|
| financial support by the grant | support in call for grant | physical work, instruments, refreshments, additional program, contacts, material support, help regarding their profession | basic sanitation, agreement for project | technical support for final even, space for dissemination of final event |

5. Results

It can be definitely confirmed that building a community takes longer than one summer, or a half a year. Nevertheless, neighbours who did attend this programme, and especially the working Saturdays on weekly basis, confirmed that they created or improved their relationships. Thus, the major results of positive improvements were based on the physical interventions, which were realised by active participants, mainly inhabitants, under the supervision of architects.

Among the aims of this project was also the popularisation of actual urban challenges, focused on explaining to people what means a good public space for their quality of life. The process allowed to put together a group of people and had their attention in order to disseminate knowledge which normally people can't find anywhere in mainstream media. In this way served perfectly especially socializing events, Jane’s walk and Opening party.

As for the learnings and improvements for the future, very important proved to be the periodicity and regular rhythm of the activities (involvement of participants on regular basis). Weekly activity keeps the momentum and people stay enthusiastic about the next week challenge. Furthermore, for the getting the involvement of participant stable, crucial was a photo documentation, and its sharing. It is important to show people who participated, and put them on the pedestal, because without them nothing would be done. Photos and short videos from each day were compiled to short videos where people could find themselves what strengthen their proudness about the project.

6. Discussions

As a main point of discussion for the future development of these processes is the issue of the sustainability of their coordination and management. In our project, the work was throughout the whole time managed by the team of volunteering architects. The work management, in case of technically not difficult works, should be however the responsibility of a specific profession - perhaps a community manager, creating a new profession in this field in Slovakia.

Furthermore, as a great issue also stems out the limits of participation in community building processes. In key issues must the will and ideas of participants supported by the opinion of the expert. Each process must have clearly set rules of decision-making and responsibility, in order to ensure its democratic nature. The will of individual cannot be preferred against the public interest.

Last but not least is the often-debated issue of role of architect. In western countries, there are specialists for participatory planning and facilitation who manage the processes and by different tools collect the data, process them and prepare the report for the architect who plays only a partial role in the process, and so of helping to propose the solutions for particular issue. However, on the other hand architect is the one who have knowledge combined of more professions, so he is able to explain the
decisions and chosen solutions, despite the current trends of highly accessible wide-range knowledge on internet. The presence of the architect at community participatory meetings might show him the importance of each problem and last but not least it will keep him/her connected to reality of ordinary life of residents. If he/she should design good public space or building, the understanding of the lifestyles and needs of its future residents in essential.

7. Conclusions
This process was a test: test of various types of activities, various participants and various intensity and role of their involvement, or timing. One of the main tests was the use of bottom up approach in physical change of the public space with the intention to build up a community in the neighbourhood with neighbours who do not meet each other only in elevator or once a year on the meeting of the fellowship of owners. This test was generally successful. The use of these tools, in specific environment of panel mass housing in Slovakia, do have a great potential in two dimensions: addressing the degradation of its physical structures, as well as in building community engagement.

To conclude, community building definitely might be an answer for today challenges of panel housing settlements. The feeling that I know my neighbour, that they are here to help me if I need it (and the other way around) and that we share good quality public space which is clean and safe so that my child can come from the school by itself, makes me happy. In the raising anonymity, movement of the people and raising number of sub-letting flats and Airbnb properties should be the way we are taking in the future.

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