Living-dwelling | the importance of half-private spaces in the neighborhoods on the city borderline

Mihajlo Zinoski

Faculty of Architecture, 'Ss Cyril and Methodius' University in Skopje, Macedonia

Abstract

Purpose – The purpose of this paper is to present the participatory action project, in an attempt to redefine the aprioristic approach, which does not bring significant results for the local community regarding the sustainable concept as an estimative goal. The purpose of introducing the process management (PM) as a technique was to incorporate the collaboration between academic research with ongoing activities of local authorities, and furthermore to preserve living and dwelling patterns to make them sustain within the neighborhood in time.

Design/methodology/approach – PM is a method of approaching planning that can be used in complex, unpredictable situations common in the field of development and social change. The method allows stakeholders to pursue different goals or activities within a common project. Under such circumstances, the planning process must respond to many interests as a key aspect of the public interest of a particular community. This concept helps planners by anticipating the precise events and activities to satisfy the larger goals and processes.

Findings – This study sets out with the aim to establish sustainability definition in this case study, i.e. based on the notion of the ability of future generations to meet their own needs, the management of the project described in these participatory activities has attempted to resolve the complexity of stakeholder positions in the contemporary community. Emphasizing the social content, general and specific objectives of the project interact and evolve during this process of implementation of sustainable methodology and become the subject to negotiations and compromises, which change during the process.

Research limitations/implications – The survey could help to get the needed information to create correlated activity diagrams. They represent the actual and the proposed situation in the neighborhood regarding social interaction between the dwellers and their interlock of interests on different scales. These are highly mutable components that depend on a certain period. The hypothesis regarding certain research problem could give significant statistical differences, but depend on relevant survey questions.

Practical implications – A common topic is established – the importance of half-private spaces. The students have learned how to create and use analytical tools in the process of creating a program that has social significance for the inhabitants. In terms of the study curriculum, the students benefit from this project as a part of their education process. Local authorities and dwellers also become aware of the significance of particular social values regarding property value and land use assessment.

Social implications – Social sustainability becomes a project where the planning process must respond to many interests as a key aspect of public interest where municipal sustainability requires self-assessment, to reinforce the connection between citizens and local authorities as their real representatives.

Originality/value – The hypothesis regarding social behavior gave significant differences when the following aspects were statistically analyzed: time-sharing between household members, the importance of house yard preferences, barrier properties between households and negotiation boundary between neighbors

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(space compromise). Urban Facility Management (UFM) is seen as the primary factor in creating an urban ecosystem, which has people and the environment as the main driving forces.

Introduction

There is a different methodological approach regarding urban sustainability agenda. The role of municipality authorities has an important role when public space is under consideration. Local authorities commonly assume the community needs and propose environmental solutions by using previously gained experience. Frequently, it derives from previous experiences from similar problem. Therefore, the purpose of this work is presenting the participatory action project, in an attempt to redefine the aprioristic approach, which does not bring significant results for the local community regarding the sustainable concept as an estimative goal. Usually similarities are recognizable on a global level, but sustainable approach of local community is recognizable on a local level as well. The research presented in this paper will also give us the opportunity to realize how participatory actions in local community, between residents, their representatives and experts in the area are inherent in defining the aspects of social sustainability in architectural research. By involving the different parties in the design process, it is the assumption of creating an architectural concept with social significance for the final users. Depending on the standpoint, each party has particular specific role regarding their participation in the whole process. To achieve these assets, it is necessary to emphasize the academic plausible methodology.

This paper presents the research of social sustainability according to new proprietary conditions in transformative societies. It is important to emphasize that the research problem relates with aspects of new properties of the half-private space. As the agricultural land in rural areas nearby Skopje, transformed for housing, it immediately became the subject of urbanization under local governance. In the beginning of that process, the vernacular type of housing with strong identity was appearing and created as so-called "rurban" neighborhood. Certain characteristics of rural and urban elements were recognized with strong social significance. Thereby, the purpose of research presented here is plausibility of basic theoretical and methodological principles, to achieve a social sustainability as a collaborative condition within communities and community-based facility management outcomes.

The success of sustainable development programs in transitional societies is determined by their ability to achieve the highest attainable increase in living standards without measuring the least possible environmental and social degradation. This condition is present especially in the post-socialist countries, who are attempting to reach the European Union standards for living environment without acquiring a certain knowledge. It seems that the local authorities and experts in that area of expertise emphasize environmental or economic sustainability on global level, avoiding the aspects of social sustainability of the future development at the local level. There is a great possibility of "environmental degradation to occur in areas of high poverty and low social cohesion" (McKenzie, 2004). Local authorities, in the process of maintaining and planning of the urban domain, cooperate with private sector interests. There is a structural and organizational gap between private and public interests, considering the fact that public are a sum of individual interests. A better understanding of social value of community facilities is needed and facilities managers will be required to align objectives to the positive social outcomes (Alexander and Brown, 2006, p. 256).

Theoretical background – sustainable model

The recent and most commonly used definition of sustainability known as the Brundtland definition established in 1980s at the United Nations Commission on Environment and Development is: sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). For successful implementation of sustainable development, the ability of members of certain communities to develop processes and structures, which not only meets the needs of its current members but also supports the ability of future generations to maintain a healthy and sustainable community is necessary.

There is great misknowledge defining sustainability regarding the context where definition is applied. Usually, it is more important than its wording. Inclusive definitions may call for interdisciplinary input and a cohesive view of the interrelation of nature, society and the economy, but the primary goal of those who are performing the research and stakeholders, which profit from its implementation, will quickly determine the real meaning of the work in the field of sustainability. Any community or organization that equally cares about environmental sustainability or economic sustainability should include social sustainability as a principle too. Social interactions within community define the identity of public domain and should be represented by authorities:

> [. . .] public domain is specified as a representation of collective needs. As an opposite of "private" which etymologically means personification and unique, "public" refers to selectivity and wholeness? The elements using to establish this aspect of collectivism and wholeness should be universal, understandable and familiar to their users. From the sociological point of view public authorities approach to the citizens and become their real representatives. (Davis, 2006)

In practice, this has not been the case. Therefore, the key aspect of social sustainability depends on societal conditions of community on its local level. According to Sutton (2000), sustainability is not "about" the integration of ecological, social and economic issues, neither "about" widespread consultation nor is it "about" improving quality of life; it is about maintaining or sustaining something. To understand this concept, there is a necessity to identify the focus of concerns of local community. This top-down approach to developing areas where users' views are excluded may mean that cities' sustainable agenda is not meeting the goals as expected. There are various studies within the building context where users are excluded from the rationality of sustainable technical implementation, resulting in unintended consequences that may run counter to the sustainable goals.

UNESCO's Management of Social Transformations project has conducted a series of case studies on cities and the social policies that determine their social sustainability. The social sustainability of a city in this project is defined as:

> Development and/or growth that is compatible with the harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population. (Sutton, 2000)

Their focus on the local in all these matters is because of recognition, where according to Sutton (2000), the social sustainability of cities is affected by not only nationwide spatial policies but also, if not chiefly, policy decisions and implementation at the local level. It is very hard to develop sufficient frameworks for social sustainability on macro level without failure of social theory principles states Sutton (2000).

A focus on local policies and institutions is required instead, to build up "comparative knowledge" about the key factors that make urban policies successful. Particular societies in

transition cannot be studied, sustained or altered through policy or institutional changes without reference to the transformation of space (local region) they occupy, such things as the allocation of civic space, street design, the location of services in relation to population and so on. The principle of "best practice experience" became model for social sustainability research that takes the focus away from "scientific" measurement of a condition and emphasizes "comparative knowledge." By doing this, it allows for a wide range of collaborative research projects to be considered under the heading of social sustainability and community integration. The criteria for inclusion as a "social sustainability project" are that the project must be innovative, effective and sustainable (Sutton, 2000).

Social sustainability may be viewed as a process, as well as a condition states McKenzie (2004). Each local community has its particular condition where architectural research problem has its own characteristics. Thereby, each indicator of that condition becomes actions, which can be implemented by the community as a whole to increase or preserve its current level of sustainability over time. According to facility management impact, system performance indicators are required, at a strategic level, to provide feedback about the overall health of a community or region. There is a need of developing practical methodologies for community-based indicators and promotion of the use of innovative and participative performance management in the corporate, voluntary and public sectors. There is no formula for how to develop a system of indicators. Each community and region should develop a system based upon its own circumstances and needs (Alexander and Brown, 2006, p. 257). Participatory action on methodological level is simply a matter of rephrasing the indicator that is, developing a series of mechanisms for a community to identify collectively its strengths and needs. There is methodology that gives a possibility to achieve social sustainability as a collaborative condition within communities. Processes within communities that can achieve that condition are some activities as indicators of the condition. Steps toward their implementation are the following aspects of the process:

- equal access to key services such as health, education, transport, housing and recreation;
- the needs of future generations will not be disadvantaged by the activities of the current generation;
- system of community and cultural relations in which the positive aspects of disparate cultures are valued and protected and in which cultural integration is supported and promoted when it is desired by individuals and groups in the same public space;
- participation of citizens in local municipality at a local level;
- creating a system for transmitting awareness of social sustainability from one generation to the next – a sense of community responsibility for maintaining that system of continuity; and
- developing of FM mechanisms for a community to fulfill its own needs where possible through community action.

According to McKenzie (2004), these aspects should improve the social sustainability processes on a local level.

Strategies of managing social sustainability – participatory actions research

In the attempt to redefine the implementation of sustainable concept, we would like to explain plausible methodology, which gives significant results for the local community. A

crucial goal is to elaborate an approach based on the "principle of inquiry into the actual or proposed actions of people, by and with those affected," to reach the social aspect of particular group of people (Chevalier and Buckles, 2008). It is important consideration to realize how participatory actions in local community, between residents, their representatives and experts correlate the aspects of social sustainability in architectural research processes.

The objective of this approach to collaborative thinking and social engagement is to eliminate socially irrelevant inquiry managed "from outside." Participation is defined as the interactive engagement of stakeholder groups viewed as "communities of interest" (Chevalier and Buckles, 2008). Defining the applicative methodology, it is important to establish a relevant problem regarding the social issue between all stakeholders involved in the process. Therefore, managing and mediating the knowledge of different actors is only feasible when it is done according to the direction of the "history" behind the immediate situation (Chevalier and Buckles, 2008).

Pedagogy and the sustainable process
According to Chevalier and Buckles (2008), the role of academic approach in such participation projects has differences from conventional "pedagogical academic program." Mainly the difference from academic approach is the ground inquiry in a social purpose or intention to act socially. Researching skills, usually, means ground thinking on assumed and previously gained knowledge. Research in the participatory action projects requires different kind of skillfulness, commonly ignored in academic settings and knowledge assets. Questions about the relevance and broader impact of course-based learning and disciplinary research are seldom asked and poorly answered. The role of students and researchers should acquire the skill to design questions and a process of inquiry that engages people involved in real events. This approach will engage knowledge-created "meaningful events," rather than producing "eventless" documents. "Skillful means" refers to any method or strategy that is helpful because it is attuned to the capacities, needs and circumstances of the people involved (Chevalier and Buckles, 2008).

New approach established in participatory action research should acquire field research and new concepts and practices to improve evidence-based research. This approach tends to marginalize it from mainstream learning and academic research institutions and from public policy-making processes (Chevalier and Buckles, 2008).

The key aspect in this particular type of research should engage local people invited to contribute to decisions about projects by being part of a participatory action research process. Sustainable development should be a dynamic process that enables all people to realize their potential and to improve their quality of life in ways that simultaneously protects and supports systems. According to Alexander and Brown (2006, p. 266), higher education role is seen as a partnership in achieving strategic objectives through positive engagement with the sustainable development agenda and in generating the tools, guidance and inspiration that will encourage the rest of the sector to do likewise. Pedagogical benefits for students in participatory action research projects are distinctive versus academic because of the direct involvement in the process where people create new knowledge and meaning. This process gives the opportunity for students to develop practical tools to delve into local culture and value systems of community life. This approach overcomes these problems by creating flexibly structured processes that support inquiry and dialogue in context and across social and knowledge boundaries (Chevalier and Buckles, 2008).

According to Lindkvist *et al.* (2018, p. 10), expert-led approaches are not just about methods to ensure indicators are developed appropriately, but they are also expertise based

on knowledge that influence how an area is developed and such knowledge also needs to be integrated into the adaptive learning process for social sustainable indicators in a community.

FM perspective through participatory action research – result-based management and process management

Methods adapted from psychology to engage social sustainability, provide unique answers to the crucial question of how to mobilize cultural values and systems of knowledge and learning. Techniques to ask questions such as problem domain and social domain, offer both simple and advanced ways to build on local knowledge and value systems, using methods that avoid fixed terms and ideas and make use of differences in language and culture (Chevalier and Buckles, 2008). According Lindkvist *et al.* (2018, p. 7), there is no clear connection between the strategic level of political and municipal goals and local operational level of the people working and living in the neighborhood. In this way, the social construction of sustainability in cities is district dependent on the cultural values and priorities of that district. Furthermore, the authors state that this top-down approach to developing areas where users' views are excluded may mean that cities' sustainable agenda is not meeting the goals as expected. There are various studies within the building context where users are excluded from the rationality of sustainable technical implementation, resulting in unintended consequences that may run counter to the sustainable goals.

Result-based management

A stakeholder such as public administration, as a party in participatory processes, usually narrows its involvement only on ordering planning documentation and issuing building permission according to the law. Their contribution in organizational development uses a somewhat narrow range of methods to plan and manage projects. These methods, especially in the public sector, involve managing for results – formally known as result-based management (RBM). This method begins with setting expectations that reflect common goals and specific objectives. Subsequently, activities are designed and managed to achieve the expected results (Chevalier and Buckles, 2008). Beside its rationality, the result-based management leans primarily on previous experience, lacks reason and brings rigidity into planning and facility management processes. Thus it creates unpredictability and uncertainty instead of comprehension of local community needs. Considering planning where unpredictability and uncertainty exist, and with limited knowledge of key factors, leads to actions that are mechanical and linear. Planning process deprives people of the flexibility they need to achieve desired results under changing circumstances. In complex situations, RBM produces closed-system plans that are too simple and that may hide reality behind defined goals and projects (Chevalier and Buckles, 2008).

Nowadays, to act socially in facility management methods within the project, other planning methods have evolved to include critical reference groups (involving participants) in key stages of the project cycle. This method includes goal definition, information gathering, project planning and implementation. As such, they inject "participatory principles" into the planning process.

Process management

PM is a method of approaching planning that can be used in complex, unpredictable situations common in the field of development and social change. Agricultural into urban in the transitional society was a common situation. This process triggered population migration as well. As in medical practice, planning becomes a form of continuous thinking grounded in

ongoing activities. The result is a series of working hypotheses to be tested "in the middle" of complex situations that have no clear start or end (Chevalier and Buckles, 2008).

The method allows stakeholders to pursue different goals or activities within a common project. Under such circumstances, the planning process must respond to many interests as a key aspect of public interest of particular community. This concept helps planners by anticipating the precise events and activities to satisfy the larger goals and processes.

PM implies methods and techniques where plans are made at the right time and adapted to ongoing results, which means that each step of the process can create inputs for the design of later steps. These techniques are key features of PM that introduces the social dimension into project planning. People can then apply new learning to social participatory action guided by practical wisdom and a sense of purpose already established in the pattern language of their existential space. On the other side, younger participants in the process end with higher acquisition of management skills.

Skopje experience

Social sustainability as a collaborative process within communities was a workshop topic realized in December 2013 by students and professors from the Faculty of Architecture in collaboration with Municipality of "Centar," Skopje. The whole research process of the public needs, data collection related to the regulations and proposal of the architectural concept was a perfect opportunity for collaboration with Municipality of "Centar" within their on-going activities. This collaboration process between involved parties in participatory action project brings together culture, community and professional identity and all-important determinants for early-phase planning (Boge *et al.*, 2018, p. 53). According to Xue *et al.* (2019), urban facility management offers a systematic knowledge, which can solve the barrier to co-creation very well. At the same time, collaborative process as an intermediation between the strategic city needs and local needs of a district could bring facility managers to build close relationships with citizens, business companies and public institutions. Description of collaboration process between two institutions has the following methodological assets:

- *Phase 1* – Detection and "labeling" of problem as non-places. The purpose of the first phase was to make the students recognize public spaces, which are not used to their full potential.
- *Phase 2* – Development of the problem, history of the place through the plans and level of their realization. Students had to elaborate the problem, take pictures and create a survey regarding a better public space. They had to realize the morphological transformation of the place through urban plans, how it was transformed during periods and what was the reason it became what it is today, a so-called "non_place."
- *Phase 3* – Architectural concept and "label": reprogramming/new public realities. After determination of the problem, students had to propose the best architectural design that will improve public space.
- *Phase 4* – Acceptance of most doable architectural concept according to the criteria and municipality budget.
- *Phase 5* – Realization of project proposal according to the annual plans of Municipality of Centar.

The phases presented earlier, provide an overview of the students and their survey findings about which factors in early-phase planning of public space they perceive, create or do not create value for owners and users of public buildings. The respondents' answers made it

possible for students to reduce the data to five methodological phases. These five phases have been used to develop several hypothetical project proposals to elucidate the research question about how early phase planning creates value for owners and users of commercial and public sector buildings (Boge *et al.*, 2018). The project proposals have been presented in front of city mayor.

In the course of the research process, students were investigating the problems of local habitants regarding the occupation of their public space by collateral activities. This concept of dialectic relation between students' capabilities for research in architecture and residents' needs, introduces the process with a social significance only when it emerges from the contexts where it actually belongs.

Living-dwelling: a participatory action between students of architecture and the residents in neighborhood of "Ilinden" municipality, Skopje

Being one of the fast-growing suburban areas of the city of Skopje, the Municipality of "Ilinden" has developed specific urban living and dwelling patterns that could serve as a sustainable model for future development of the city. Through observing and contact with the dwellers, particular social and cultural habits regarding the usability were recognized in spatial organization of their courtyards. According to Temeljotov Salaj (2005), the interaction models between individual and environment are based on analyses of social variables (individual and group, personality, culture, part, organization, social–economic environmental processing, sphere and frequencies characteristics), considering the influence of physical facts and variable's analyses of nature and shaped environment (characteristics of architecture and landscape, characteristics of the processes).

It was realized that participation of residents as stakeholders is important during the research of socially sustainable environments. This research was conducted during the two workshops. The first session was realized in June 2014, where the objectives have been to create a participatory action between local authorities from Municipality of "Ilinden," students and mentors from UKIM Faculty of Architecture in Skopje and the residents from the neighborhood in "Ilinden." Students in close communication with dwellers and local administration have investigated the actual dwelling and living habits of the neighborhood, focusing their research on the residential urban block in "Ilinden." In the course of one week, the students fulfilled several tasks:

- *Task 1* – Students prepare specific questionnaire to determinate the social and spatial distinctive qualities of the place regarding its inhabitants and their particular style of living.
- *Task 2* – Students observed the neighborhood to realize the crucial social and habitual patterns of inhabitants related to their dwelling.
- *Task 3* – Students created survey to realize participant's perception of qualities of their neighborhood. To be sure that they asked correct questions, students have created three groups of questions: statistical parameters, program and spatial patterns and needs/preferences. There was a part of the questionnaire where dwellers had been asked to sketch the floor plan of their house and also the floor plan of the house they would like to live in.
- *Task 4* – Inhabitants created their own statements according to their perception of the neighborhood. Dwellers were inquired about their previous experience about their current living environment. They were asked to describe in their own words what they like the most and the least of their living places and write it in the questionnaire to share it with the rest of participants and also to try to sketch the

floor plan of their house. The task was to "Imagine your ideal living space."
Participants were asked to reflect their visions and expectations concerning their
future habitat by trying to sketch a floor plan, which represents their ideal living
place.

- *Task 5* – Representatives from the municipality realized inhabitant's needs. At this
point, concerning the research that the students had made, the municipality got a
clear image of what the problems and needs of this particular neighborhood were.
- *Task 6* – Students summarized results and created (social diagrams) according to
the survey.
- *Task 7* – Students presented results to the representatives from the Municipality of
"Ilinden."

The following final considerations have emerged from the experience of implementing the
participatory action processes from this workshop:

- Students have been introduced with specific research methodology to realize public
collective needs.
- This concept of dialectic relation between students' knowledge for research in
architecture and dwellers living habits, introduced the "culture of building" where
architecture has a social significance only when it emerges from the contexts where
it actually belongs.
- Students became aware of the role of architects as educators of dwellers regarding
their perception of dwelling.

The purpose of the follow-up second session realized in October 2015 of the workshop has
been to create, recognize and conceptualize social behavior beyond the half-private space in
one neighborhood in "Ilinden".

Students and professors engaged in close relations with the dwellers to understand the
importance of their courtyards in their lifestyle where particular and specific social activities
are taking place. In this workshop, PM methodology was applied. Survey was conducted to
support careful analysis of the actors involved in a project, the problems they are facing and
the options for action they may use to improve and achieve their goals (Zinoski *et al.*, 2016).

As the primal goal was to improve educational process, to ground inquiry in a social
purpose and intention to act socially, the participatory action in "Ilinden" has been a
collaboration between Faculty of Architecture in Skopje from UKIM, lecturers from the
University of POLIS in Tirana, lecturers from the University of Belgrade and the local
authorities and dwellers of the Municipality of "Ilinden", Skopje. The methodology proposed
in this workshop was an open, complex system approach to thinking, dialogue and action
with the aim to create process with practical tools for collaborative inquiry and social
engagement of dwellers. As a result, students proposed an evaluation model to assess and
form the basis of negotiation for an in-kind participation. With that focus in mind, according
to Temeljotov Salaj *et al.* (2018a, 2018b), the active FM role can be seen as significant for
widening the scope of student's investigation. Accordingly, there has been a pedagogical
purpose behind the action, regarding the students and the dwellers, who have been taking
part in a social design process. The other challenge was how to radically improve the
understanding of how socially, economically and environmentally sustainable, in our case,
neighborhoods on the city borderlines are and how to make local urban ecosystem more
resilient. From that point of view, it was important to discuss the urban public
administration and services innovation to develop mechanisms for integration of different

policies as well scenarios and transition pathways and urban data management to increase quality and availability of data to support policy-making for sustainable urbanization (Temeljotov Salaj *et al.*, 2018a, 2018b).

Techniques/methodology

The social analysis techniques, as a result from the second session, were created that reflect basic living patterns: What are the problems that people encounter, who are the actors or stakeholders affected by a situation or with the capacity to intervene and what are the options for action? (Chevalier and Buckles, 2008). As a conclusion of summary, more knowledge of social theory should be included in the field of FM facilitation of creative environments in the perspective within the urban planning that gives opportunities to create spaces for informal social interaction (Temeljotov Salaj *et al.*, 2018a, 2018b). The half-private spaces, house's front yard that are meeting the public zone of the street, have been in the focus for possibilities for reprogramming and restructuring of the neighborhood landscape. Architectural scopes have been created by leading the following steps as a methodological strategy of the workshop:

- *Step 1* – Educative and informative meeting in a form of a seminar was held where teachers and lecturers from different areas of expertise and different universities were discussing the importance of the aspects of the half-private spaces.
- *Step 2* – Interactive meeting with residents where they have identified their spatial needs and have mapped the required facilities.
- *Step 3* – Creating questionnaires in which the questions have been chosen in pursuance to get the answers needed that helped the students understand the dwellers' needs and their habits.
- *Step 4* – Architectural conceptualization of the resident's requirements (working on development of the new spatial concepts that will redefine the semiprivate threshold between private/home and public/street space).

The survey has helped the students to get the needed information to create sociograms, related to the activity diagrams, which represent the actual and the proposed situations in the neighborhood regarding social interaction between the dwellers and their interlock of interests on different scales. According to Grum and Temeljotov Salaj (2013), the survey should describe attempts to enhance the understanding of the role of different cultural habits on the expressed satisfaction level within the households in which participants live and their expectations regarding the land value. The hypothesis should represent that differences regarding expressed satisfaction and expectations of dwellers' land usage according to different cultural identity in the area of real estate factors are statistically significant. Social behavior should correlate these factors as a site acquisition.

The activities between students and residents planned for this participatory action have been grouped in the following sequential phases:

- *Phase 1* – Theoretical background: students have attended an opening ceremony at the Faculty of Architecture followed by lectures with theoretical background of the particular location and subject of interest.
- *Phase 2* – Municipality visit: the theoretical discussion has moved to the municipality hall of Ilinden, through a process of familiarization with the municipality and its attributes.

- *Phase 3* – Meeting with the dwellers: the important part of a participatory action is to bring different stakeholders together. The students after meeting with the local dwellers of Ilinden have been introduced to the local needs; on the other hand, the dwellers have learned about the importance of the half-private space as a zone of social interaction.
- *Phase 4* – Preparing questionnaires: based on the previous knowledge gathered from site, the students have prepared questionnaires regarding different topics, covering different areas of interest. The encounter between the students and the dwellers from the previous phase has been the first step toward the goal of creating a relevant questionnaire. In this phase, we planned the creation of a questionnaire and determined the relevant metric characteristics of the questionnaire (Plate 1).
- *Phase 5* – Collecting data from the questionnaires: each of the groups collected the needed data from the questionnaires and based on their suggested topic have graphically represented the outcome of the answers. In this phase, we used analysis of variance.
- *Phase 6* – Creating sociograms: the survey has helped the students get the needed information to create sociograms, related to the activity diagrams, which represent the actual and the proposed situations in the neighborhood regarding social interaction between the dwellers and their interlock of interests on different scales (Guallart, 2005).

Results
By analyzing the results from collected data, we were interested about the level of social significance of courtyards regarding residents' lifestyle. We statistically analyzed the results
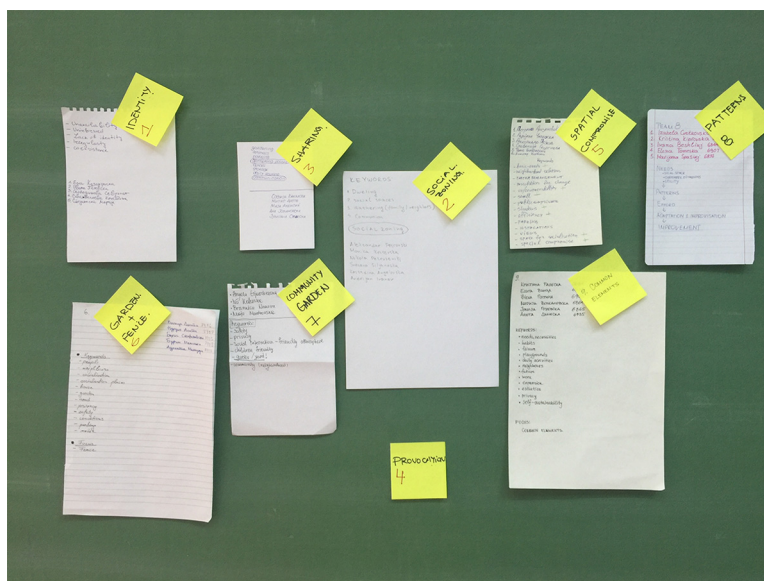
Source: By author

by conducting one-way ANOVA analysis of variance in terms of participants' age and number of members in households, fence properties, level of social relations between neighbors and house yard program. The characteristics of the analysis are presented in Table 1.

Our hypothesis regarding social behavior gave significant differences when following aspects were statistically analyzed:

- Household members were divided by their age in three groups/generations: from 0–15, 15–30 and 30 years and above. The purpose of this division was to realize time-sharing difference between generation in a household.
- House yard program represented different usage preferences between cultivated garden or decorative yard.
- There was a significant different consideration of protective purpose of fences between households and toward street.
- Negotiation boundary (space compromise) represented different social relations between neighbors.

The results also show a very strong correlation between the place of living and the expectations regarding the impact of the developed municipal infrastructure emphasizing the value of their real property. From FM perspective, this can be seen as a possibility to contribute to the added value through the project process from the early phase to the use phase, not only from building to building but also in settlements as well (Temeljotov Salaj *et al.*, 2018a, 2018b, p. 32).

Particular sociogram was created, which graphically represented spatial patterns (social zoning) between neighbors (Figure 1).
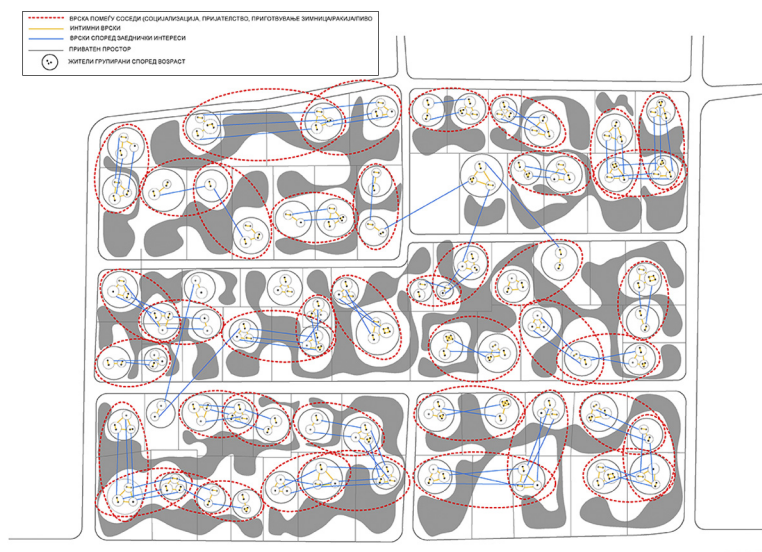
Discussion and conclusion

These techniques provided a theoretical conclusion as a summary. If the private space is defined as a local world of inhabitants and the public space as a global world of strangers, then the half-private space can be defined as an in-between zone. Its importance as sustainable model for future development of neighborhood becomes an integral part of the city. The passers-by create the street landscape and define the neighborhood image simultaneously involving the local dwellers in it.

The study sets out with the aim to establish sustainability definition in this case study, i.e. based on the notion of the ability of future generations to meet their own needs, the management of the project described in these participatory activities has attempted to resolve complexity of stakeholder positions in contemporary community. Emphasizing the

Question from the questionnaire	Sum of squares	Df	Mean square	f-ratio value	p-value significance
Time sharing between household members	54.4875[b,c]	2	27.2437	4.24088	0.022953
House yard program (needs/preferences)	5.0556[b,c]	2	2.5278	4.65581	0.016554
Fence properties between households	3.1667[b,c]	2	1.5833	3.3	0.049375
Negotiation boundary between neighbors (space compromise)	4403.6371[a,b,c]	3	1467.879	4.51102	0.007629

Notes: [a]Difference is statistically significant at ($p < 0.01$); [b]difference is statistically significant at ($p < 0.05$); [c]difference is statistically significant at ($p < 0.10$)

Table 1.
One-way ANOVA analysis of variance regarding different social behavior of participants

Figure 1.
Sociogram of shared
half-private spaces

Source: By author

social content, the general and specific objectives of the project interact and evolve during this process of implementation of sustainable methodology and become the subject to negotiations, compromises, which change during the process.

According to Xue *et al.* (2019), an urban facility manager can become the main enabler and implementer of improvement of social, economic and environmental sustainability of urban areas. Urban FM is seen as the one to help creating an urban ecosystem, which has people and environment as the main driving forces. The purpose of introducing the PM as a technique was to incorporate collaborative inquiry between academic assets into ongoing activities of local authorities, preserve living and dwelling patterns to make them sustain within the neighborhood in time. The idea to emphasize the living habits to sustain is fulfilled through the steps of preservation and learning from "living" neighborhood inherited with social significance. Assessments are done not only for accounting purposes but also to guide social action of dwellers in circumstances that evolve over time to meet unexpected needs of the future generations.

As we mentioned in the beginning, the elements used to establish this aspect of collectivism and coherence should be understandable and familiar to their users. The social sustainability becomes a project where the planning process must respond to many interests, as a key aspect of public interest and municipal sustainability requires self-assessment, to reinforce the connection between citizen and local authorities as their real representatives.

References

Alexander, K. and Brown, M. (2006), "Community-based facilities management", *Facilities*, Vol. 24 Nos 7/8, pp. 250-268.

Boge, K., Temeljotov Salaj, A., Bjørberg, S. and Larssen, A. (2018), "Failing to plan – planning to fail: how early phase planning can improve buildings' lifetime value creation", *Facilities*, Vol. 36 Nos 1/2, pp. 49-75, doi: 10.1108/F-03-2017-0039.

Chevalier, J.M. and Buckles, D.J. (2008), *A Guide to Collaborative Inquiry and Social Engagement*, Sage Publications, New Delhi, pp. 6-13, 16.

Davis, H. (2006), *The Culture of Building*, Ars Lamina, Skopje, p. 46.

Grum, B. and Temeljotov Salaj, A. (2013), "The comparison of expressed satisfaction and expectations of potential real estate buyers in Slovenia and Japan", *Facilities*, Vol. 31 Nos 1/2, pp. 6-23. doi: 10.1108/02632771311292482.

Guallart, V. (2005), *Sociopolis: Project for a City of the Future*, ACTAR, Architektur Zentrum Wien, Vienna.

Lindkvist, C.M., Haugen, T. and Temeljotov Salaj, A. (2018), "Social indicators for sustainable communities", *I: Conference of Interdisciplinary Research of Real Estate. Groningen. September 20-21*. Institute of Real Estate Studies, *Ljubljana, Slovenia*, pp. 519-530, p. 7, p. 10.

McKenzie, S. (2004), *Social Sustainability: Towards Some Definition*, Hawke Research Institute University of South Australia, Magill, pp. 22-23, p. 3.

Sutton, P. (2000), "Sustainability: what does it mean", Green Innovations Inc., available at: www.green-innovations.asn.au/sustblty.htm

Temeljotov Salaj, A. (2005), "The synergetic effect of the observer on the built environment", *Urbani Izziv*, Vol. 16 No. 2, pp. 163-167.

Temeljotov Salaj, A., Roumboutsos, A., Verlic, P. and Grum, B. (2018b), "Land value capture strategies in PPP – what can FM learn from it?", *Facilities*, Vol. 36 Nos 1/2, pp. 24-36. doi: 10.1108/F-03-2017-0033.

Temeljotov Salaj, A., Hjelmbrekke, H., Bjørberg, S., Hauge, Å.L. and Lohne, J. (2018a), "Value sharing model for urban development", *I: Conference of Interdisciplinary Research of Real Estate. Groningen. September 20-21*, Institute of Real Estate Studies, *Ljubljana, Slovenia*, pp. 11-19.

World Commission on Environment and Development (1987), *Our Common Future*, Oxford University Press, Oxford, p. 2.

Xue, Y., Lindkvist, C.M. and Temeljotov Salaj, A. (2019), "Exploring the roles of facility management for liveable cities", *I: The 18th EuroFM Research Symposium. 12-15 June, Dublin, Ireland, EuroFM, Netherlands*, pp. 207-217.

Zinoski, M. Solarska, S. and Medarski, I. (2016), "Deliverable 3.1 living – dwelling/a participatory action between students of architecture and the residents in neighborhood of Ilinden", Municipality, Skopje.

Further reading

Christopher, A. (1977), *A Pattern Language*, Oxford University Press, New York, NY.

Corresponding author

Mihajlo Zinoski can be contacted at: miki.zino@gmail.com