THE SUSTAINABLE RURAL PUBLIC SPACES: THE IMPORTANCE OF HUMAN FACTOR FOR LANDSCAPE PLANNING PRAXIS

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ABSTRACT

Public spaces are interior spaces of the settlement where people move, meet and rest. As the public spaces are unique in each village, their design should be unique as well taking account people's needs and the character of space. In Slovakia are villages numerous form of settlement. There are 2898 settlements, of which 2762 rural settlements - villages, representing 95.3%. Therefore the question about quality of public spaces in rural areas is actual. In creation or transformation of public spaces in rural settlements should be taken into account human and social aspect. Here is a place for analyses based on direct observations of people's behavior. By direct observation had been analyzed age, sex, user activities and traffic load of selected central public spaces. The information obtained from the analysis gives us a picture of public life in the village, what age groups use public spaces as a percentage of men and women, what activities are taking place in public places and about the loading of public spaces. In view of the landscape planning praxis the obtained information are useful: a) for location of roads and paved areas and character of their surface, b) the number, shape and location of rest areas and their equipment,c) in the design of active sites and their target groups such as children's playgrounds, playgrounds for teenagers, or sport areas for seniors, d) selection and location of plants and the overall visual modification site of public space. Gathered information, and the outcome of this paper may serve for the local authorities, residents, businesses and other stakeholders as possible source of data for designing qualitative living space.

1. INTRODUCTION

In creation or transformation process of public spaces in rural settlements should be taken into account human and social aspect. It is necessary to emphasize how people, their needs and expectations are important for public spaces and what role plays the space in the eyes of the citizens. Carr (1992) argues that it is important to examine needs, not only because they explain the use of places, but also because use is important to success. Places that do not meet people's needs or that serve no important functions for people will be underused and unsuccessful.

Space and society are clearly related: it is difficult to conceive of 'space' without social content and, equally, to conceive of society without a spatial component. The relationship is best conceived as a continuous two-way process in which people (and societies) create and modify spaces while at the same time being influenced by them in various ways (Carmona, 2003 p. 106). In the past decade, these social goals have become secondary to economic motivation asserts Carr et. al. in book Public Space (1992, p. 293). When designs are not grounded in social understanding, they may fall back on the relative certainties of geometry, in preference to the apparent vagaries of use and meaning. Both designers and clients may easily confuse their desire to make a strong visual statement with good design. Public space design has a special responsibility to understand and serve the public good, which is only partly a matter of aesthetics (Carr et al. 1992, p. 18).

At the turn of the century Patrick Geddes taught that before attempting to change a place, one must seek out its essential character on foot in order to understand its patterns of movements, its social dynamics, history and traditions, its environmental possibilities (Hough, 1990). Beginning in the 1960s writers such as Jacobs, Lynch, William H. Whyte, Clare Cooper Marcus and danish designer Jan Gehl emphasized the need to base urban design on study of how people actually experience and use urban environments. A new discipline of environmental design emerged, devoted to researching how built environments work for people. Researchers developed methods using behavior observation, time-lapse photography, post-occupancy evaluation surveys, and cognitive mapping (in which people were asked to draw maps or images of how they perceived their urban environments) to provide factual information for improved urban design (Wheeler, Beatley, 2004).

An American urbanist, organizational analyst, journalist and people-watcher William H. Whyte, studied human behavior in urban settings. He observed and film analyzed plazas, urban streets, parks and other open spaces in New York City. All told, Whyte walked the city streets for more than 16 years. As unobtrusively as possible, he watched people and used time-lapse photography to chart the meanderings of pedestrians. What emerged through his intuitive analysis is an extremely human, often amusing view of what is staggeringly obvious about people's behavior in public spaces, but seemingly invisible to the inobservant (PPS, 1999).

In 80ties Randolph Hester was a leader of planning process in Manteo town (North Carolina, USA). In this process residents identified what they valued about life and about their landscape. Randolph Hester comments that these important social patterns and places came to be called the „Sacred Structure" by locals and inspired a plan for community revitalization and development that was controlled by them. Planning focused on behavior mapping that recorded what people did and where they did it- things that were not revealed in the standard surveys. Activities like the exchange of small talk at the post office, hanging out at the docks, checking out the water for the tides, the fishing, and the weather, happened in the same places every day. Daily rituals indicated a dependence on specific places that could be disrupted by changes in land use. A list of these was developed, and people were asked to rank them in order of their significance, and to indicate which ones could be sacrificed in the interest of tourist facilities. From these was published a map of places that people wanted protected from future development (Hough, 1990).

In Germany before second war Martha Muchow (1935 in Koll, 2009) started to apply the observation methodologies. Her methodology was based on studies of living space for urban children in Hamburg. It is one of many possible methodologies aimed at analyzing the use of public spaces.

2. Aim of the paper

The aim of the paper is to analyze sex, age, activities and traffic load during the week days on selected central public places in the village of Dobrá Voda (Slovakia).

- Introduction to the case study site
- Evaluation of the behavior mapping methodology of Šilhánková (1996) and gathered information.
- Assess their potential use in the landscape and architectural work.

3. Study area- Dobrá Voda village

Dobrá Voda village is located in Trnava district, 29 km away from town. Population density is 853 inhabitants with 26 inhabitants per km2. According to the types of spatial

organization of the housing system Dobrá Voda is a linear-chain type village and in terms of ground plan of the genetic-formation is a privileged village with the market place connected with the castle (now ruins). Village is connected with the other villages by 3rd class communication, which passes directly through the center of the village.
In the case study village Dobrá Voda were selected 3 central public spaces (main square, main street and small new square near the main square), which were identified by the borders of cadastral map of the village. They were analyzed as a one whole public space becase they are connected and influence each other.

Main square
Area of the square in front of the church of the Virgin Mary is formed by the surrounding houses, which include the parish house with a commemorative John Hollého room and restaurant. The square is the central point of the village. It is a starting point area for hiking trails and there is also the bus stop. Here all major community events take place such as the celebration of the 1st May, a local fair, or st. Nicholas Welcoming with the Christmas tree. The surface of the square is made from stone-pitch with no visible structuring of transport for walking and car transportation. In the center of the square is green area with two memorials.

New square with the playground
The newly built square with a fountain and a children playground is located on the right side at the entrance to the main square. This area had previously been used as a small park that was created on the area of the old water tank. At this time, the area provides space for relaxation for all ages. There is a pergola with benches, playground and water feature in the form of fountain. The square is formed by buildings and whole area is enclosed by a low fence.

Main street
Main Street begins at a local shop and ends at the square in front of the church. It is one of the principal and most frequented streets in the village. On both sides is bounded by houses with front gardens without fences. On the left side, towards the square is a footpath for pedestrians and Blava stream, which is separated from the main road by the grassy area with trees of the genus Tilia sp. The alley of trees ends at the main square. On the right side are houses separated from the road by grass stripe. The street ends before entrance to the square by bridge.

3. METHODS

3.1 Viera Šilhánková (1996) –Behavior mapping
The methodology of operational improvements of public spaces Viera Šilhánková (1996) is based on the principles of direct observation. Šilhánková (1996) argues that by the analysis of behavior mapping is possible to determine human activities performing on public space and what kind of conditions are necessary to prevent and develop this activities. Based on the results of this analysis is possible to design the outdoor furniture such as benches, trash cans, clocks, advertising posters, etc. and its arrange due to human activities and needs.
Šilhánková (1996) observes people in groups by sex, age and the user activities. She counts the total amount of the people. This information is written to the forms.

The Šilhánková (1996) methodology was tested on public spaces of the village Dobrá Voda in October 2009 (Lipovská, 2010) and the results showed that from final tables of Šilhanková methodology (1996) you can not detect individual genders for each age category. Overall, this information focuses only on the total percentage of men and women who visited the selected public place. This information would assist in the completion of public spaces, especially for ages 18 to 60 years, when the use of public space is different for men and women. Also the age range 18 to 60 is quite wide, so it would be better to split it into two. Similarly, analysis of activities taking place in public places can not be characterized within each sex but only generally.

3.2 New form for behavior mapping and the traffic mapping

For the behavior mapping on selected cetral public spaces in Dobrá Voda village we used the simply form for mapping the people and the traffic load for each fiften minutes every hour.

For their display and a better understanding was developed matrix for behavior and traffic mapping on rural public spaces (Lipovská, 2010):

The colums are divided by sex, age, activities and traffic. The first two columns in Table 1. indicate sex, the third to seventh indicate the age of observing people. The eighth to fourteenth columns indicate the activities. The fifteenth column is divided to other activities that were observed on public space and the traffic load mapping. The traffic load mapping can be analyzed as needed, but the number of passing cars should be mapped.

The rows are divided to: main information- first row. mapping information- other rows and the sum of the information- last grey row.

For better orientation is used for the age columns and total row the grey color.

Table 1. Form for behavior and traffic mapping (Lipovská, 2010).

Part:		Date:			Time:				Observer:					No.
SEX		AGE					ACTIVITY							TRAFFIC
M	F	0/6	7/14	15/30	31/64	65 <	STANDING	TALKING	PASSING	WALKING	SITTING ON BENCH	RIDE THE BIKE	WORKING OTSIDE	PARKING CARS- PASSING CARS-
														OTHER ACTIVITY
TOTAL														

2.1. Method of behavior and traffic load mapping in Dobrá Voda village

The method applied in Dobrá Voda includes behavior and traffic load mapping carried out on selected central public spaces. The data were written to the prepared forms. The central public spaces were monitored at the same time, because they are closed to each other and you can observe them from one position.

Based on the obtained information we know:

- how are these public spaces used and by whom
- what kind of activities are going on
- which groups of the village population use this spaces

- at what time are public spaces visited more or less
- how many people visit the selected public spaces per day, per hour
- how many people ride the bike on public spaces
- how many cars drive through
- how many cars park on streets and squares
- how many cars park in front of the houses

Survey period

The surveys took place on summer week days with nice weather in July and August, during the daytime and in the evening for 15 minutes every hour. The data was collected and written down to prepared forms (Table 1).

Survey days

10th July 2010 from 9.00 am to 7.00 pm
18th August 2010 from 9.00 am to 7.00 pm

3. Results

The following paragraphs present the sum of a two day observation.

3.1 The Behavior mapping (sex, age and activities) (Chart 1.)

On summer weekdays used the central public space in the village of Dobrá Voda around 1160 people per day. During the observation intervals we counted 628 people (22 observations during the two days for 15 minutes). Of these we recorded 53% of men and 47% of women. Most of the observed people from total amount were recorded at 7.00 pm (18,67%) and 73,46% from total amount of people were observed from 2.00 pm to 7.00 pm.

We observed significant representation of women compare to men in the morning, at 9.00 am (63.8%), at 10.00 (70.50%) and at 11:00 (66.0%), so almost double number compare to men.

The presence of men in central public places in the village had started to rise up from 4.00 pm, but the percentage was not so significant. At 5.00 pm we observed 54, 74% of men, at 6.00 pm the 57,97% of men and at 7.00 pm 64,46% of men.

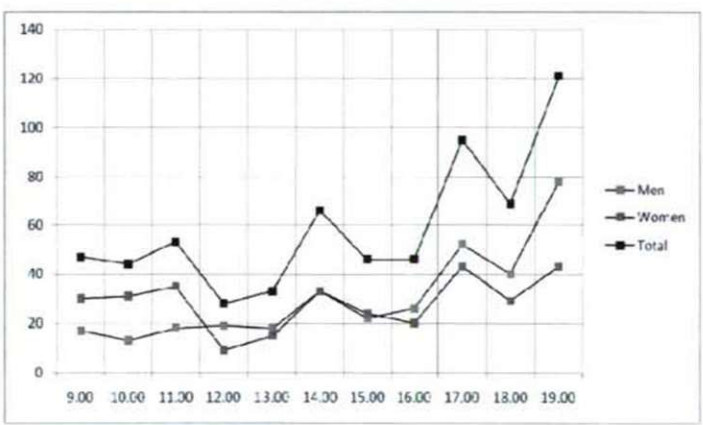

Chart 1. Sex mapping on central public spaces of Dobrá Voda village (Lipovská, 2010)

Based on age mapping chart the central public spaces of the village Dobrá Voda were visited mainly by people aged 31-64 years (38.2%) follows the age gropu 15-30 years (25.6%) and 65 and over (17.1%). The smallest representation had the group 7-14 years (11.5%) and 0-6 years (7.6%).

The most observed people on the Dobrá Voda's public spaces were between the age 31-64. The significant representation of this category was from 10.00 pm to 6.00 pm (41,70% from 5 observed age groups at that time).

We observed that the people in the age from 30-15 years had significant representation at 5.00 pm (38, 95%) and at 7.00 pm (36,50%) from 5 observed age groups at that time.

The children between 7-14 years used the public space mainly at 1.00 pm (35,30%) and the children between 0-6 years used the public space at least.

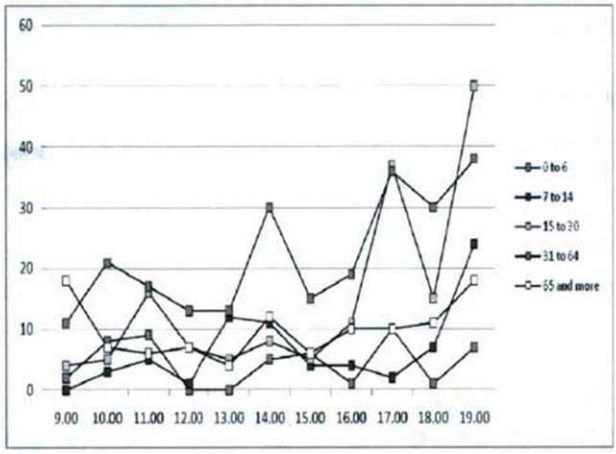

Chart 2. Age group mapping on central public spaces of Dobrá Voda village (Lipovská, 2010)

In the central part of the village Dobrá Voda we observed 28 types of activities (standing, passing through, riding the bike, going to pub, biking, sitting on bench, talking, sitting on pub terrace, passing with coach, working outside, going home, playing on street, looking around, playing on playground, playing with child, walking with coach, phoning, reading, going to church, walking with dog, sitting on the stairs, going to post office, walking, skateboarding, jogging, taking a photograph, drinking on street, getting off the bus). During the one working day about 1436 activities took place on the central public spaces. Most of them (66, 62%) took place in the afternoon (from 2.00 pm to 7.00 pm). Seven activities represented more than 3% of all activities (mentioned in Chart 3).

The largest share in the activities had passing activity (28, 27%). Other activities that represented more than 3% from all observed activities were: talking (20, 31%), sitting on pub terrace (10,37%), ride the bike (7,95%), standing (6,39%), going to pub (5,29%) and sitting on bench (3,27%). The largest number of activities were recorded at 17.00, which was carried out 14,06% of the total activities.

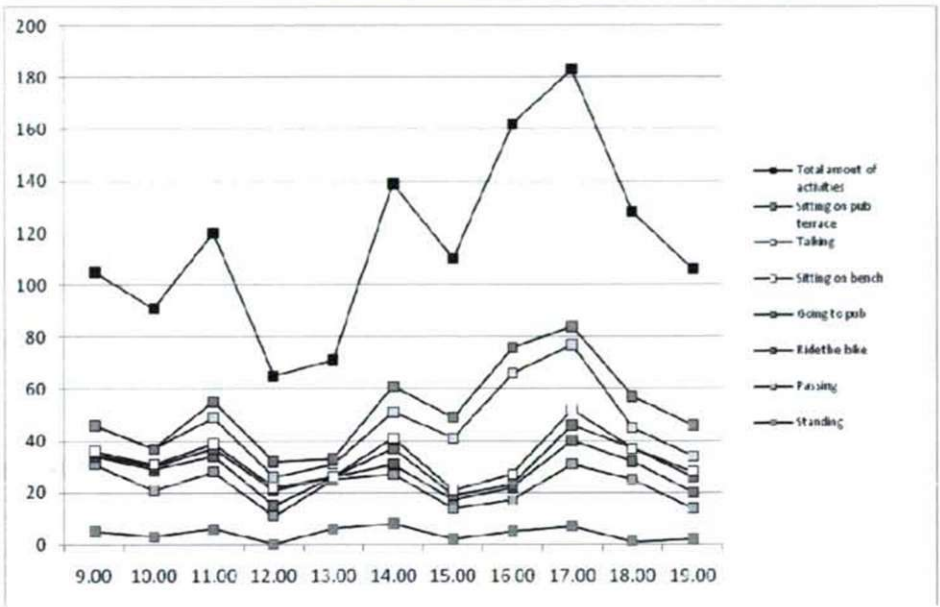

Chart 3. Activities mapping on central public spaces of Dobrá Voda village (Lipovská, 2010)

3.2 Traffic mapping.

The behavior mapping is aimed to pedestrian and cycling people, to their sex, age and activities. During the behavior mapping was possible to map the car traffic load. We mapped the standing cars in front of the houses, the cars parking on public roads and squares and the number of passing cars through the central public spaces, because they might have a big influence on activities and on the usage of the public spaces. The results show the average numbers of two days observation (15 minutes per hour, from 9.00 am to 7.00 pm).

The total amount of passing cars per one working day from 9.00 am to 7.00 pm is 380. So every two minutes 1 car passes the central public space. The highest number of passing cars is at 2.00 pm (11, 96%), at 3.00 pm (14,13%) and at 7.00 pm (13,00%)

On the area are 26 houses with the possibility to park in front of the house. These front parking spaces are usually paved with concrete. The highest amount of the cars parking in front of the houses was at 1.00 pm, at 3.00 pm and 7.00 pm, when we recorded 6 cars at the same time. The average amount of the parking cars in front of the houses was 4. The highest amount of the cars parking on the square was 7 cars at 2.00 pm. The average amount of the cars parking on the square was 4.

3.3 Assessment and recommendation

The usage of observed central public spaces was different during the day in the village of Dobrá Voda. In the morning hours were visited mainly by women and people aged 31-64 years (until 2.00 pm). Activities carried out that time were less represented than in the afternoon and they had mainly passing character. In afternoon are these central public spaces visited almost double times than in the morning. At the time, from 2.00 pm to 7.00 pm many activities were taken place that had a social character such as sitting on a bench, talking, sitting on pub terrace.Central public spaces in the village of Dobrá Voda are attractive for people aged 31-64 years. Attractiveness for adolescents and people within 30

years had increased in the evening, when it is basically a pub visit. For children from 14 years and below are all central public spaces not attractive. Despite the playground is located, the number is smaller.

Loading of central public space by transport is almost evenly throughout the day, increasing slightly in the afternoon. The number of cars passing through have any significant impact on activities in central public places.

Central publci spaces in Dobrá Voda village have a potential due to the number of activities and the number of people. A number of recommendation aimed at pointing out some general suggestions comming out from mapping analyses.

- Supply many more public benches, especially at frequentlly used routes. During the day they offer a place for elderly people and during the night they are meeting place for young people. The elderly people usualy prefer the quite areas during the day as the same as young people at night. The benchces could be facing to each other, to create good possibilities for social interactions.
- Provide space for physical activities, play and unorganised activitie in the streetscape.
- The central public spaces also provide an opportunities for outdoor entertaiment.
- The stream goes throught the central publlic spaces should be more visible.
- Improve conditions for walking- wider pavements.
- Give a high priority to pedestrians and cyclist.
- Establish new resting areas (najma pre starsich a mladych).
- The areas in front of the houses, serving as a parking spaces, do not have to be paved.

4. CONCLUSION

In view of the landscape planning praxis the obtained information are useful:

- for location of roads and paved areas and character of their surface,
- the number, shape and location of rest areas and their equipment,
- in the design of active sites and their target groups such as children's playgrounds, playgrounds for teenagers, or sport areas for seniors,
- selection and location of plants and the overall visual modification site of public space.

Gathered information, and the outcome of this paper may serve for the local authorities, residents, businesses and other stakeholders as possible source of data for designing qualitative living space.

REFERENCES

1. CARMONA, M., HEATH, T., Oc, T.,TIESDELL, S. 2003. Public places, Urban spaces. (first edition). Oxford: Architectural Press, 2003. 312 p. ISBN 0-7506-36372

2. GEHL, J. 2004. Towards a fine city for people. [Cit. 2009-01-24]. Dostupné na <http://www.gehlarchitects.dk/>
3. GEHL, J. 2000. Život mezi budovami. Brno : Nadace Partnerství, 2000. 202 s. ISBN 80-85834-79-9.
4. GEHL, J.,GEMZOE, L. 1996. Public Spaces. Public Life. Copenhagen : The Danish Architectural Press and Royal Danish Academy of Fine Arts, School of Architectural Publishers, 1996. ISBN 87-7407-187-4.
5. HOUGH, M. 1990. Out of Place: Restoring Identity to the Regional Landscape. USA: Yale University Press, 1990. 230s. ISBN 0-300-05223-5
6. KOLL, A. 2009. Der Laubeplatz in Wien Favoriten, diploma work. Wien: BOKU, 2009. 113 p.
7. KOLL, A. a kol. 2006. Landschaftsplanerische Planungs-und Umsetzungsprozesse, Landscaftsplanerisches Projekt zur Umsetzung der Strategie des Gender
8. PROJECT FOR PUBLIC SPACE (PPS). 2001. How to turn a Place Around: A Handbook for Creating Successful Public Spaces. Project for public spaces, Inc.: New York, 2001, 312p.
9. ŠTĚPÁNKOVÁ, R. 2007. Urbanizmus a územné plánovanie (Urban Desing and Town Planning), skriptá SPU, v tlači (in print), 2008.
10. TILLEY, J., ŠILHÁNKOVÁ, V. 1996. Metodika operativního zlepšení veřejného prostoru (The Methodology of Operational Improvements of Public Spaces) , 1996.
11. WHEELER, S. 2004. The sustainable urban development reader , 1.vyd. London: Routledge, 2004, 348 p. ISBN 0-415-31186-1
12. WHYTE, W.H. 1980. The Social Life of Small Urban Spaces, The Conservation Foundation. Washington D.C. 1980.