PL2 (Chłapowski Landscape Park, Poland): What are the preferences of stakeholders towards landscape components and how good is awareness of landscape services among different groups of stakeholders?

Objective

Awareness of the landscape determines the attitude towards the landscape and is the basis for the assessment of its value. There is a direct relationship between the degree of awareness of the landscape and the understanding of its meaning and perception of its value. Because of this relationship, individual and social consciousness of the landscape, and its intentional reference, are crucial for the management of the landscape. In the case of the landscapes in rural areas the human factor plays a particularly important role, because the area covered by the management belongs almost entirely to the farmers. The question arises to what extent the state of the countryside landscape depends on the awareness among farmers and local inhabitants? Therefore it is important to obtain the knowledge about the landscape consciousness among farmers, their preferences towards the landscape elements and their criterions of the landscape valorisation. The main purpose of the study was to determine the relationship between: natural and cultural features of the agricultural landscape and landscape awareness among the farmers and their preferences towards different landscape elements.

Methodology

For measuring the stakeholders preferences towards landscape components we used pair-wise ranking approach – Thurstone's model of statistical judgment (Thurstone, 1927). We conducted the survey with 198 respondents divided into four groups of stakeholders: farmers living in the Chlapowski Park; other (then farmers) inhabitants of the Park, habitants outside the Park (in adjacent area), and tourists visiting the park.

Further, we asked the respondents to rank in pairs different landscape components: forest, fields, meadows and pastures, roadside plantings (tree-lines along the roads); windbreaks (shelterbelts) along the fields, water reservoirs and field ponds and local architecture. To assess the intensity of preferences for individual elements of the landscape we used the Thurstone's model (Case V).

For collecting data about the stakeholders' awareness of landscape functions we asked the respondents to evaluate in the Likert-scale an importance of economic and environmental functions and benefits of shelterbelts. The following economic functions of shelterbelts were evaluated: habitat for beneficial insects and nectar plants, source of raw materials, prevention against wind erosion, water storage, and attraction for tourists. Moreover the following environmental functions were taken into consideration: habitat for species, habitat for nectar plants, and protection against wind, shelter from the sun, water treatment and sequestration, climate and air quality regulation. Additionally, due to the great importance of farmers in shaping the rural landscape, 30 in-depth interviews were conducted with this particular group of stakeholders.

Results

Preferences of stakeholders towards different landscape elements are presented on the figure 1 (according to respondent group) and figure 2 (according to valuated element). It can be observed that preferences of farmers noticeably differ (p=0.0001), comparing to other groups of respondents. Farmers evaluate their preferences more according to an economic utility of the landscape elements, whereas other groups of respondents take into account more aesthetic appreciation. Thus the most important and preferred landscape elements for farmers are fields and pastures, conducive to agricultural production. Despite appreciation of regulating role in agricultural production, they do not perceive the shelterbelts as most preferred element of the landscape in this evaluation.

Habitants outside and inhabitants of the Park do not differ significantly in their preferences (p=0.19). The most preferred element of the landscape for these groups are cultural sites - local architecture, however forests are also evaluated at the high rank. What is interesting to observe is that the valorisation of shelterbelts in case of habitants and visitors is higher than in case of farmers, which might be attributed to its aesthetic rather than regulating (utilitarian) function.

Visitor's preferences are different than in both habitants groups, but less significantly (p>0.03). They evaluate the landscape elements according to aesthetic appreciation. On the first place in the ranking they prefer architectural sights, then forests and surprisingly, shelterbelts. The last could seem to be a strange observation, since an agricultural landscape usually is less attractive for sightseeing and recreation use. However Chlapowski Landscape Park is famous for its specific landscape, shaped by agriculture and characteristic shelterbelts creating green-paths along the roads and fields. This was confirmed by the results of questionnaire in which we asked tourists for their reasons of visits. The area of the Park is also rich in historic buildings like manor houses in Racot, Kopaszewo, and churches. The pathways created by windbreaks and local architecture encourage tourists to come for short term visits for biking or walking, therefore appreciation of these landscape elements could be understandable.

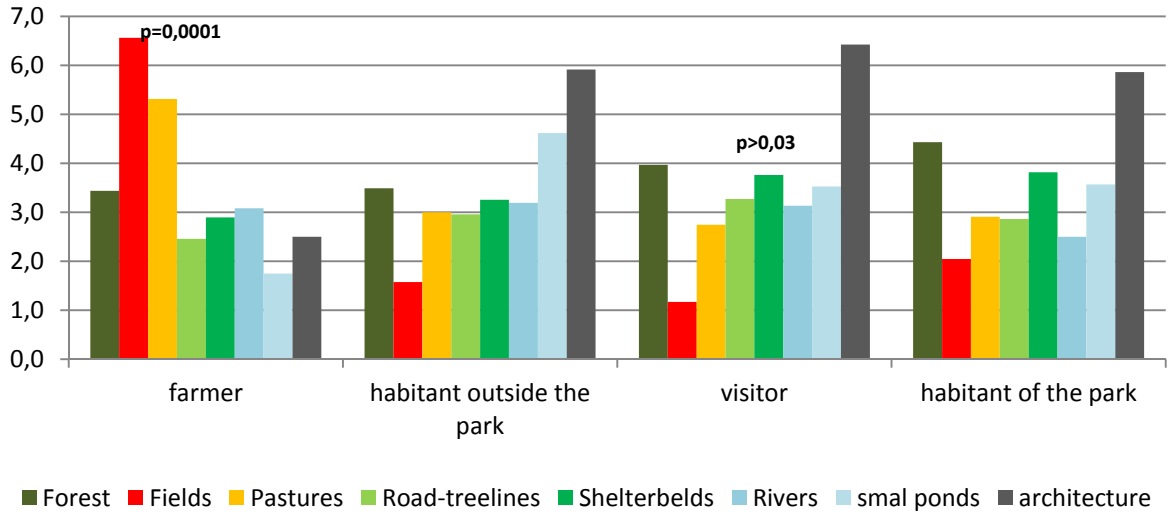

Figure 1: Stakeholders preferences towards various landscape elements by group of stakeholders. (n=198; 48 farmers; 47 habitants outside the Park; 59 visitors; 44 habitants of the Park).

Regarding differentiation of the preferences towards the various landscape elements it can be observed (figure 2), that the most significantly different preferences are observed in case of fields and pastures, as well as local architecture and field ponds (p<0.0001). As it was already mentioned before, the variation of valuations is mainly contributed to different approach of farmers towards landscape (utilitarian), then the altitude of other groups of respondents (aesthetic).

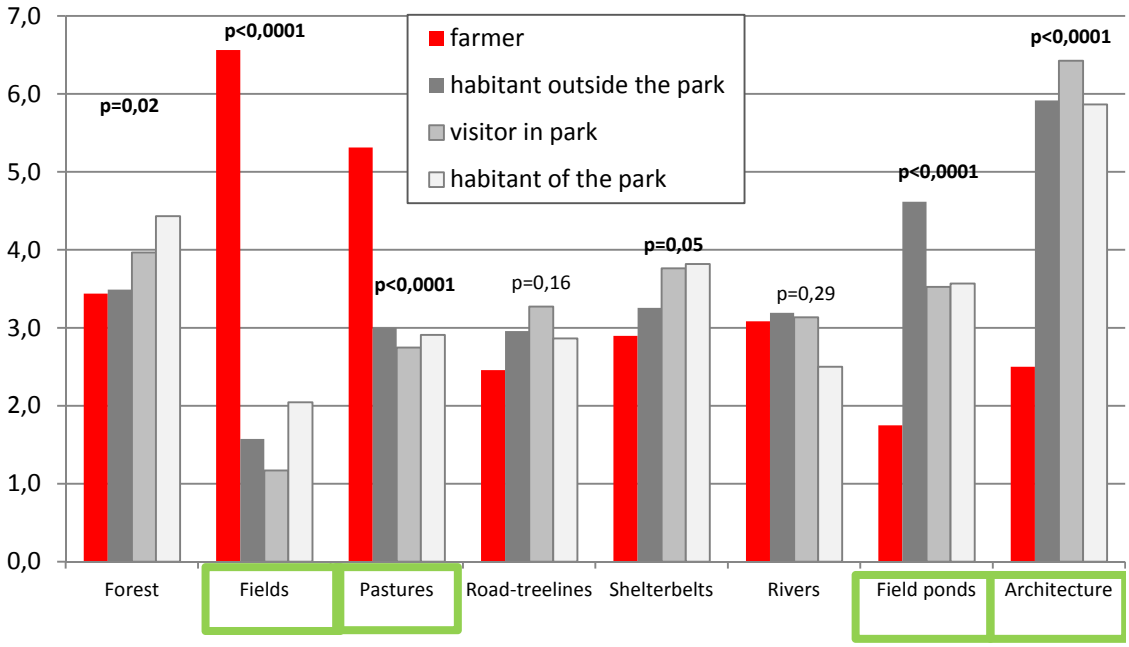

Figure 2: Stakeholders preferences towards various landscape elements in the Chlapowski Landscape.

Another important aspect of the analysis was awareness of the landscape functions and services among the stakeholders. We tested it on the example of shelterbelts (windbreaks), the characteristic element of the landscape in the case study region. On the figure 3 we presented the valuation results of the different environmental and economic functions of shelterbelts by different groups of respondents. The following economic functions of shelterbelts were evaluated: habitat for beneficial insects and nectar plants, source of raw materials, prevention against wind erosion, water storage, and attraction for tourists. Moreover the following environmental functions were taken into consideration: habitat for species, habitat for nectar plants, and protection against wind, shelter from the sun, water treatment and sequestration, climate and air quality regulation.

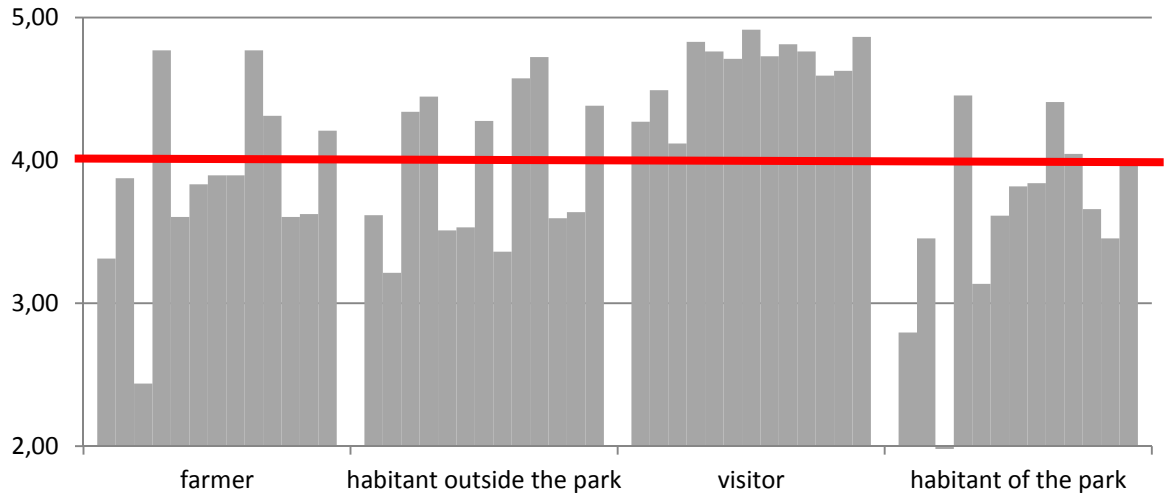

Figure 3. Evaluation of importance of different shelterbelts functions by groups of respondents (1-not important; 5-very important).

It can be stated, that the farmers the most properly evaluated the economic and environmental functions of the shelterbelts. The highest importance they attributed to regulating function of this element (protection from wind and sun, air quality regulation). They also estimated the average growth of yields for about 3.7% due to the regulating function of windbreaks, however responses differed significantly from -50% to +50% (standard deviation = 24), which may indicate that farmers are not sure about the real impact of the shelterbelts on the yields level. Habitants of the Park were also convinced about importance of the regulating function of shelterbelts, however they valuated this importance lower than farmers.

The lowest awareness of the landscape functions were observed in case of visitors. They perceived almost all functions of shelterbelts as important or very important in the region. Due to the great importance of agriculture and farmers in shaping the rural landscape, it was decided to investigate more thoroughly this group of respondents in terms of landscape awareness. Thus, the additional in-depth interviews were conducted. The results of this study indicate that 79% of farmers are convinced that they have an influence on the landscape and 58% of them feel obligations relating to its protection. Almost all respondents agree that the shelterbelts have a positive impact on agriculture and landscape. However, it is interesting that 95% of them would not allocate their own land for its establishing. This result may arise from the fact that although the farmers are aware of the beneficial effects of shelterbelts on agricultural activity and productivity of land, they are not able to estimate correctly magnitude of this impact (measurable benefits). Therefore, they are not willing to compromise on revenue (added value) generated by agricultural production in favour of uncertain (unrated) benefits from protecting the fields by shelterbelts. They also believe that this type of plantings should be placed in the common (state, government owned) land, and not on their own fields. They are also reluctant to pay for the maintenance of the woodlots.

Lesson learned & Policy Recommendations

The results of this study indicate that the farmers are convinced about their influence on the landscape and most of them declare to feel obligations relating to landscape protection. The most important and preferred landscape elements for farmers are fields and pastures, conducive to

agricultural production. Thus it could be concluded that they formulate their preferences more according to an economic utility of the landscape elements, than aesthetic appreciation. Farmers generally agree that the shelterbelts have a positive impact on agriculture and landscape. However, they are not able to estimate correctly the magnitude of this impact (measurable benefits). Therefore, they are not willing to compromise on revenue generated by agricultural production in favour of uncertain (unrated) benefits from protecting the fields by shelterbelts. They are reluctant to pay for the maintenance of the woodlots and designate their own land for new establishments.

Habitants of adjacent regions, inhabitants of the Park and visitors take a different, more aesthetic angle in evaluating the landscape elements. The most preferred element of the landscape for these groups are local architecture and forests, however there are significant differences in the level of evaluation. It is interesting to observe that the valorisation of shelterbelts in case of habitants and visitors is higher than in case of farmers, which might be attributed to its aesthetic, rather than regulating (utilitarian) function. The green pathways created by windbreaks and local architecture enriching this monotonous agricultural landscape, therefore appreciation of these landscape elements can be understandable.

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