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REDUCING LANDSCAPE VALUES UNCERTAINTY

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ABSTRACT

The paper primarily deals with the degree of uncertainty that brings uneasiness when considering a land-use plan that is perceived as the outcome of planning procedure. Specifically, the paper addresses the issue of uncertainties that follow social value systems attached to a landscape. There is no professional consent about the question of value that ought to be attributed to protection. Apart from the usual exception to the rule that intrinsic or predefined values are apparently still firmly entrenched in landscape planning practice, at the pedagogic level of the discipline there is a shift towards extrinsic values. The underlying premise of the paper is that evaluation of natural systems based on predefined values makes consent between developmental and conservational interests impossible. In order to fulfil the key landscape planning principle - "as low as reasonably achievable" (ALARA), the analytical phases of the planning procedure should mandatorily involve or acquire information derived from human relation to nature. Or in other words, in order to be truly socially responsible, a planner should consider multitude of conservational goals and his/her expert knowledge should provide transfer of such conservational goals into different value definitions of the same environmental component or system as whole. That is argued to be prerequisite point of departure for optimisation planning procedures. The paper will begin by brief outline of two fundamentally different value categories. Their reflections or consequences in land use decisions concerning present conservational policy in Croatia will be discussed next. By extension, the "extrinsic vs. predefined landscape value" dispute will be argued from the teaching point of view, especially concerning those elements that invoke difficulties while generating and/or linking the concepts of evaluation models. The paper will finally acknowledge a platform of three value systems as an appropriate mode to cope with the uncertainty within planning process.

1 INTRODUCTION

Any planning activity, therefore environmental planning too, is both future orientated and value laden activity. These professionally widely recognized planning characteristic features contain certain level/s of uncertainty that should be acknowledged when resolving diverse concrete environmental problems. Coping with uncertainties i.e. undefined knowledge that is needed but unavailable, is reflected in present environmental tools such as impact assessment and vulnerability analyses, spatial planning process itself and its output - land use plan. The legislative that brings European Directive on Assessment on the Effects of Certain Plans and Programmes on the Environment, therefore an introduction of strategic impact assessment (SEA), could be seen as an effort to reduce uncertainty that is peculiar to land use plans. Every land use plan is based on a forecast of developmental and conservational requirements, therefore appears with certain uncertainty level. Apart from that, uncertainty is present in the social dimension of environmental planning - value system deployed. Recent publications reveal a considerable emphasis on the issue of public participation in planning ranging from general recognition and urge for research into values attached to a landscape, (Kaltenborn and Bjerke, 2002) to characterization of a planning activity as a social process, (von Haaren, 2002). Expert knowledge on the matters that ought to be protected is no longer sufficient, neither is ethically correct. Indispensable information comprises lay people opinions and attitudes toward a landscape. Such information is prerequisite for analytical phases of planning process that is guided by the "as low as reasonably achievable" (ALARA) principle. Multitude and divergence of social values attached to a landscape should be explicitly disclosed and tested within analytical planning phases. A suitable solution that will assure an environment that is equally pleasant and healthy as human habitat, long term productive and last but not least, as natural as possible is a decision that can be made only if landscape/environmental values are perceived as an interpretation of divergent social attitudes and multitude of social interests toward a landscape, rather than predefined or intrinsic ones. Employing the aforementioned interpretation of divergent social attitudes and multitude of social interests toward a landscape into planning process (extrinsic landscape values), poses some difficulties that should be addressed. The first is the prevailing standardization and/or normative approach to spatial environmental problem solving. The second is the transformation of preference information into the spatial models. Both problem areas are going to be discussed from scholastic perspective.

2 DESIRED FUTURE STATE OF LANDSCAPE: PREDEFINED VS. EXTRINSIC LANDSCAPE VALUES

In order to discuss two different categories of landscape values and differences between them, the terms used must be clarified. Also, a "legitimacy backup" must be provided. To start with former, a value given or attached to landscape prior to actual evaluation stage of the planning process is termed as intrinsic or predefined value. Extrinsic or instrumental value is defined as value of landscape that derives from the synthesis of two parallel lines of analysis: developmental and conservational possibilities. Such value understanding differs considerably from perceptions based on economics background. For example, Pannell and Schilizzi (1997) explicitly claim that intrinsic value of a natural system is a value that exists irrespective of its usefulness or amenity to humans, whereby extrinsic value is defined as a value that arises from the fact that the environment increases the satisfaction of mankind or is useful to them. Extrinsic value is articulated into the existence value (value derived from knowledge of the existence of species, natural habitats and landscape) and option value (value derived from the potential for presently low-value resources to the one becoming higher valued in future). Returning to the aforementioned structural element of sustainability concept, the dimension of economic efficiency still remains an insurmountable obstacle between two professions. Let us consider the following statement: the better the natural conditions for the implementation of technology are – the higher is the value of natural resource in question. If in this hypothetical example the soil is taken as natural resource and agriculture as technology in the broadest sense, then we can agree that natural soil fertility, terrain configuration, exposition, etc. are natural conditions or features that are valuable for agriculture. From the economics point of view, we would be addressing extrinsic landscape value as a value for agriculture. But, if the example given is superimposed with the question: is it right to designate that particular area for agricultural use despite the impacts on landscape that we are aware

of?[37] Or, in other words: is this (the agricultural use of a particular area) alternative that is the least harmful to the environment? In that case the answer seems hazy. Inevitably, conservation activities within planning must face that issue. It is believed that additional two suppositions could facilitate the distinction between value types or answer the question. First, a potential change of environment and/or landscape, due to human intervention in it, is the motivation for evaluation. In other words, it is argued that there is no evaluation activity that it is not driven by a possible or envisaged change to be fulfilled in future. Second, advocated characteristics of values from the field of axiology to environmental planning profession, as invoked by Frondisi (1971) are their polarity and hierarchy. The consequence of these value characteristics for the methodology of evaluation we attempt to reveal in this analysis is that values do not have hard boundaries in space. The teaching dimension of this issue relies on the theoretical framework illustrated in Figure 1. At the Zagreb school the diagram serves as a ground were students are introduced to value laden questions such as "what interventions into environment mean to people, to what extent we can reduce them and in what ways we can limit ourselves in using the natural environment"[38], (Marušič, 2002, p.98).

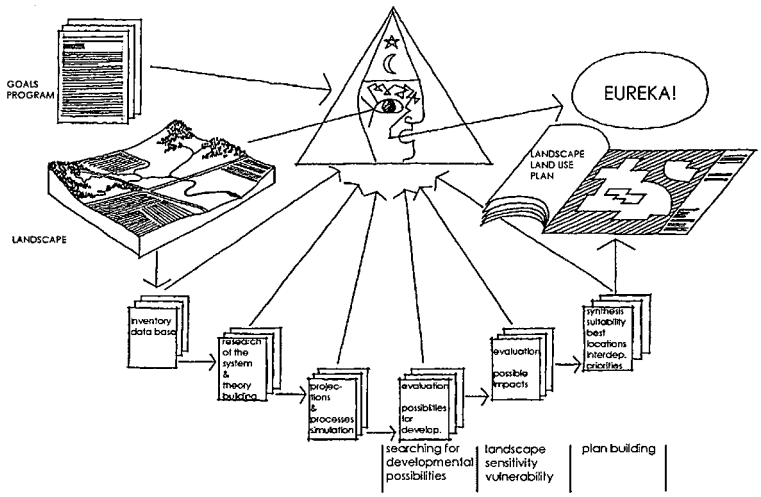

Figure3. Methodology of planning process. Source: Marušič (2002)

Furthermore, within teaching curricula two features of planning process are stressed. First feature emphasised is the identification of the rationality in problem solving as the major paradigm to be followed or at least to what we are striving to in the training. Besides rationality [39], attention is paid to the recognition of the planner's intuition as a complementary approach to the methodology of problem solving. Marušič (2002) reminds that this among other reasons is due to several uncertainty factors. Among different types of uncertainty, uncertainties associated with the value system people attach to environment and/or landscape correlate with the topic of the paper. Finally, at a general level, and without oversimplifying the value dispute, a conscientious landscape planner should be aware of the fact that conservation issues, on the whole, are not as unambiguous as developmental ones.

3 VALUE DISPUTE FROM TEACHING PERSPECTIVE

The reflection of the clash between predefined and extrinsic landscape values is going to be disclosed in the procedure of suitability analysis that is employed as an instrument of spatial optimisation. The focal points are, as seen in Figure 1, the two preceding steps to the plan building: evaluation of possibilities for developmental request/s and evaluation of landscape vulnerability due to a developmental activity. The content of the latter evaluation represents obviously, an assessment of environmental impact. Vulnerability analysis is the point for departure of conservational requests while the results or outcomes of such analyses are providing the stronghold for the use of extrinsic values. The output results should be nothing but the consequences of people conservational interests or requests. The same is true for the outcomes of developmental possibilities assessment as well. When confronted with both lines of analysis, students tend to incline towards the search for developmental possibilities than to vulnerability analyses. Questions of value are here approached directly by asking and thus conceptualising evaluation models: (1) what are the best spatial qualities for the implementation of developmental activity in the given area and (2) what quality systems of the environment would be sensitive due to the developmental activity. Complexity of the latter evaluation model is evident, and this is perhaps not the only factor causing the difficulties that are expressed in the analytical search or difference assessment between existing and desirable qualities in landscape. It may well be that a certain back and forth switch from extrinsic to intrinsic/predefined value of landscape, in environmental quality systems assessed[40], is causing that difficulty. To substantiate this, let us examine student works in evaluation modelling. The evaluation of developmental possibilities (in this example - a golf course) for the planning area was "easily"

[37] Paraphrased ethical principle of respect for nature, Taylor (1986).

[38] Conservation planning task as defined corresponds to the basic planning principle of *as least as reasonably achievable* (ALARA).

[39] By rationality in planning process, understood here is the externalisation of information in a step-by step procedure that leads to the solution of problem.

[40] Landscape vulnerability analysis is performed on standardised three quality systems that originate from three distinctive ethical relations founded in human-nature relationship: qualities of human habitat, qualities/potentials of natural resources and qualities of primordial state of nature. For details see Butula (2003).

conceptualised on the basis of information provided on spatial requests for golf. The concept is transformed into the attractiveness model for golf course, Figure 2. The value appropriation – in this case surveying for golf - is at the information level, dependent on acquired knowledge about this type of recreation activity and scholar "freedom" for activity allocation.

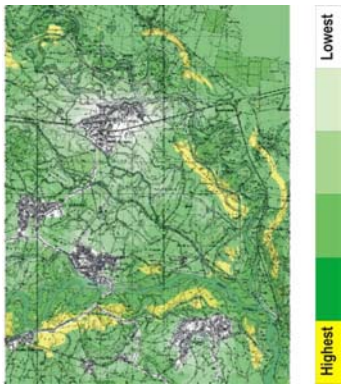

Figure 4. Illustration of the golf course attractiveness model. Source: student landscape planning studio works 2002/2003.

The evaluation of possible impacts - vulnerability analyses - is undertaken on three quality systems, as seen on Figure 3. Conceptual level of models formation consisted of questions: (i) what are human habitat qualities that might be potentially degraded due to activity concerned; (ii) what are qualities for agricultural use of land that might be reduced due to the activity and (iii) what natural habitats are in danger of being anthropogenised due to the activity? The point where the intrinsic/predefined value intrudes into the evaluation is best seen in the vulnerability model of agricultural land-use.

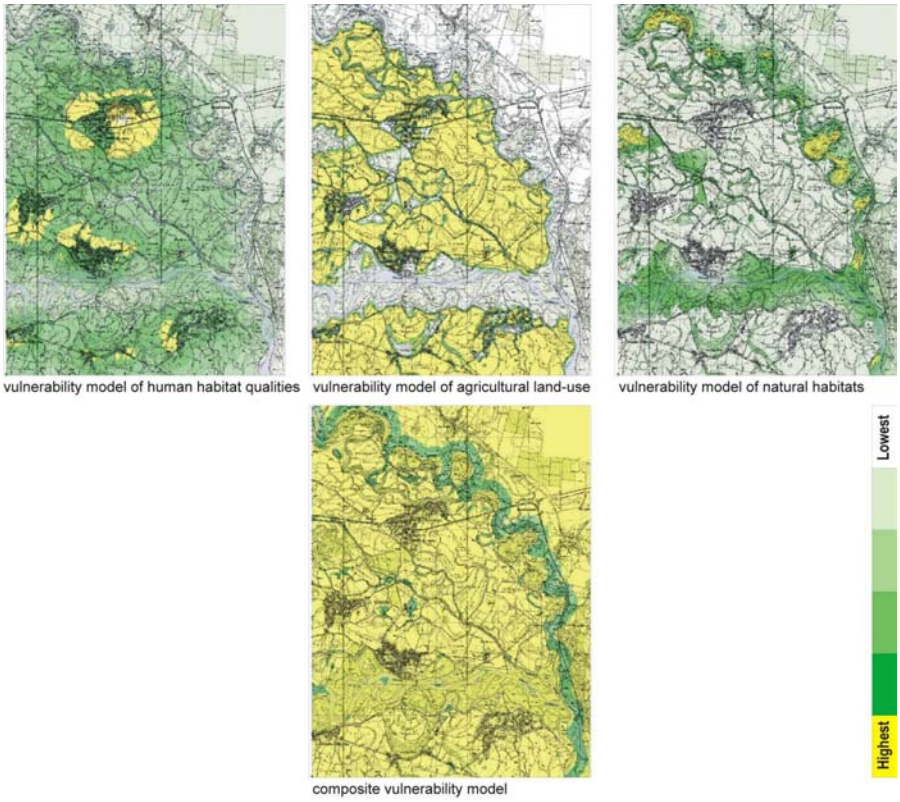

Figure 3. Illustration of the golf course vulnerability models. Source: student landscape planning studio works 2002/2003

It is obvious that model originates from, again at the level of information, the existing agricultural land use. Similar origin of value appropriation is noted in the vulnerability model of human habitat qualities: existing settlements are taken as focal points in value assessment. The third model of nature vulnerability was conceptually oriented to distinct riparian habitats, as shown in Figure 3. This idea was more difficult to accept; instead, students were much more comfortable with the idea that the knowledge of a protected area (ornithological reserve, Figure 4), instantly signalises what is potentially vulnerable if considering naturalness in the area. It should be noted at this point that studio work deployed only the Delfi technique (among students) and short communication with the planning experts as the modes to decrease subjectivity in assessments.

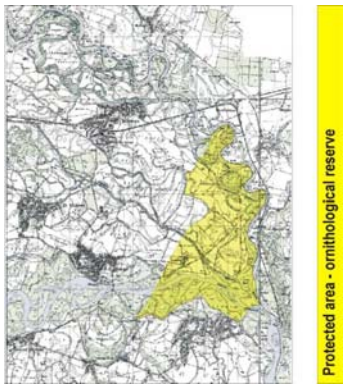

Figure 4. Normative approach to nature conservation.

Nevertheless, two models show that they are, to a certain extent, influenced by predefined values which are observable in "spatial" presumptions that: (i) desirable qualities of human habitat are predefined by existing settlements structures; (ii) desirable potentials for agriculture converge around existing agricultural land. Taking into account envisaged social changes that will be or already are reflected in certain European landscapes, such as Common agricultural policy or effects of information revolution on nature of work, communication and settlements patterns, the desirability criteria listed would not be appropriate. In the formation of the third model, the student group did not initially embrace the instructions given to them as to why vulnerability of naturalness should not be deduced from the predefined value (nature protection area). In the phase of model conceptualisation they argued a need for careful value sift on the base of knowledge derived from conversation with experts and planning documents survey. Unsurprisingly perhaps, the student group was more inclined to the nature vulnerability model than to the other two, identifying it as "subject area" of their future professional orientation. Only at the formation stage of suitability models, they showed understanding of optimisation procedure and preceding value elucidation. They felt comfortable with balancing different people's interests that are illustrated in three distinctive suitability models, Figure 5.

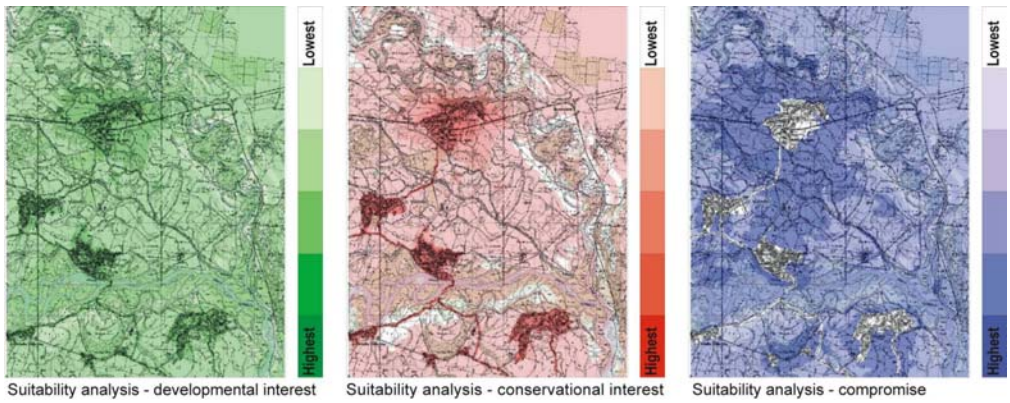

Figure 5. Illustrations of suitability analyses outputs

4 VALUE DISPUTE FROM PRESENT CROATIAN PRACTICE PERSPECTIVE

The specification of Croatian most prominent conservational issues are presented in Table 1. Some of numerous conservation aims and correspondent measures are here depicted in order to illustrate value dispute from the standpoint of active conservational activities within planning. This is used as a tool to get an insight into the actual state of the profession.

PRIORITY THEMES	PROBLEM DETECTED	CONSERVATION AIM	CONSERVATION MEASURE
Waste disposal	Wild deposits Improper allocation	Provide for new locations Restore existing dumps	Site suitability assessment for different categories of waste
Inland waters	Water pollution	Protect unpolluted waters	Categorise sources by use Aquifer pollution danger assessment
Atmosphere	Air and noise pollution	Reduce emission	Categorise territory by degree of air pollution
Adriatic sea, islands and littoral zone	Sea pollution Illegal construction	Protect sea quality Restore and protect spatial identity	Construct and improve sewage system Employ SEA
Agricultural and forestry land	Natural resource loss due to land use change	Prevent land reduction and chemical/physical degradation	Ecological and economical assessment in land loss

Nature conservation	Biological diversity	Habitat lost and pollution Resources overuse	Ecosystem inventory and mapping Integrate sectorial policies	Ecosystem inventory and mapping Vulnerable and/or protected area/ecosystem management plan
	Landscape protection	Irreversible loss of cultural landscapes	Protect and enhance cultural and visual assets	Overall landscape inventory Outstanding landscape evaluation and mapping
	Geological heritage	Uncontrolled mineral exploitation Negative impact from other land uses	Rationalise amount of potential geological degradation	Control over concession permits

Table 1. Conservation activities framework. Adopted from: National Strategy and Action Plan on Environmental Protection (2002)

In order to address the problems listed, they first have to be "translated" in accordance with the planning rule of problem identification, as proposed by Chechile (1991), or needed problem articulation, as introduced by Chadwick (1971): any planning problem equals to obstacles on the way to the goal achievement. Therefore, in general, a task of an analytical phase of conservation planning procedure is to identify the obstacles we may encounter on the way to a planning goal. In particular, and this is within the context of landscape evaluation, value dispute seems to be absent. This observation is based on the character of the envisaged conservation measures. Predefined values, or normative approach to the goal achievement prevail by large with the exception of the Adriatic sea. Here, the envisaged measure of strategic environmental impact assessment (SEA) could be taken as a reflection of optimisation needed. This cross-section of active conservation also shows domination of sectorial approach over comprehensive one. The situation might not be unique for Croatian case only. The discrepancy between educational and practice standpoints are obvious.

5 FINAL REMARKS

Inflexibility of land use plans has been recognised as disadvantageous in the arena of uncertainty. "The plan is the process" was a syntagm frequently used among planning experts about a decade ago. Today, when addressing the uncertainty issue we tend to take the hierarchy concept that could be presented in the sequence: vision - policy management - strategy – land use plan. Such concept of environmental problem solving and, it should be stressed, within the planning process is the manifestation of the need to reduce uncertainty factor. The reduction is possible only if shifting the emphasis away from solely elitist or expert assessment on what values in landscape ought to be protected. That is the reason why values *per se* and/or the process that leads to their elucidation were disclosed as important. The intention was to prompt a more critical look at present situation of landscape evaluation step/s in the procedure of landscape planning and to generate a rethinking process, particularly in the sphere of spatial planning outside urban areas.

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