Landscape Values: Predefined or Extrinsic?

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SUMMARY

The paper addresses the issue of the source of landscape value attributed to protection. Besides the usual exception to the rule, it is believed that intrinsic or predefined values are still firmly entrenched in landscape planning practice, whereas 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. Consent is perceived as the mechanism to fulfil a key principle "as least as reasonably achievable", ALARA, in both aspects of landscape planning. The research focuses on the stage of planning process that enables spatial data transformation into suitability maps that represent or externalise extrinsic landscape values.

The paper will begin by brief outline of two fundamentally different value categories.

The results of suitability analyses i.e. value systems detected and a reflections or consequences in land use decisions concerning some past and present policies in Croatia will be discussed next. By extension, the "extrinsic vs. predefined landscape value" dispute will be argued especially concerning those elements that invoke difficulties while generating and/or linking the concepts of evaluation models. The paper will finally acknowledge an optimisation planning instrument as a mode to cope with two value systems.

KEY WORDS

values, planning, landscape, methodology, ALARA principle

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Received: November 21, 2004

INTRODUCTION

Sustainability is the paradigm of our time. Yet its use as a guide to spatial planning that should result with the sustainable use of natural resources and/or the achievement of environmentally sustainable forms of development is still subject of numerous debates, as marked in literature, for example O'Riordan (1985), Lafferty (1995), Jacobs (1995), Davies, (2001) and Boersema (2001). Moreover, the concept of sustainability as Baker et.al. (1997) have pointed out has enormous appeal in land use policies and legislation as what appears to be a well-defined and measurable concept. On the contrary, proponents of sustainable development rather often differ in departure points for discussion as well as in the understanding of the meaning of the term. These differences in opinion, as Marušič (1996) perceives, are characteristic not only for political circles and spatial policy decision makers, but also for those directly involved in the spatial planning processes who have to seek and provide solutions in the terms of certain future land use, based on the concept of sustainable development. In order to achieve the later, the proposal given by Pannell and Schilizzi (1997), that is of the sustainability concept decomposition into the three basic elements: environmental stability, social equity and economic efficiency seems as appropriate.

Such perception of sustainability is similar, at least to some extent, to the definition of landscape as a triangle between environment, economy and society/culture, as agreed at the International Hannover Conference on Landscape Planning (1999). It is believed that these three elements constitute a general framework within which conservational planning operates. Moreover, it is believed that they could be treated as three value systems, all of which a planner should be aware of. The use of such structured concept of sustainability in the achievement of diverse conservational goals mandatorily involves or acquires information derived from human relation to the nature. As Marušič (1996) pointed out, definition of goals depends on information as to how environmental problems are socially emphasised. This is the departure point from which, at the level of planning methodology, a multitude of conservational goals should be transferred into different value definitions of the same environmental component or system as whole. The phase of landscape evaluation, i.e. value appropriation provides an answer to what environmental and/or landscape qualities we deal with. The subject of conservational planning is therefore to either conserve or enhance a specific quality of landscape rather than its environmental component. From the teaching perspective, special attention is given to that stage of planning process. The endeavour is based on the premise that landscape planning is a creative activity and should be taught in concordance with the new demands on future landscape planners. Between other skills, von Haaren (2002) envisages communicability of a planner in the process of information exchange with different stakeholders or participants in the planning process, as important. The issue of what kind of landscape value should be attributed to protection relates to both aspects of the discipline. The direct reflection of the value dispute into the methodology, as well as in the practice of landscape evaluation, is evident in the "amount" of encountered social interests for the area in question.

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

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. Steinitz (1990) in his very much-quoted paper on models used in landscape planning (and other planning disciplines as well) distinguishes several types of evaluation models. His definitions of values are connected to planning and to the methods used to carry out a land use plan of an area. Thereafter, he does not define values as such but rather their position within the planning process. The values do appear as features at certain stages within the activity of information transformation (as we can also define planning process). It is obvious that C. Steinitz does not discuss the values as something given from outside or definable outside the planning context. Finally, extrinsic or instrumental value is defined as value of landscape that derives from the synthesis of mostly 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. For the philosopher B. Ošlaj (2000) the Nature has no value at all. "There is nothing of value in the Nature", he claims (Ošlaj, 2000: 83). But this does not mean that we must not respect the wholeness of the Nature. We, human beings, are responsible for the Nature and its integrity. In this sense the no-value philosophical concept poses the same obligations on

human beings, as does the concept of intrinsic values and even with very similar consequences in regard of methodological solutions in physical planning.

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 back 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 more favourable the natural conditions are for the implementation of technology – the higher is the value we attribute to the 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? – we have to deal with the ethical principle of respect for nature introduced by Taylor (1986) and other similar principles discussed by other ethicists from the field (Leopold, 1992, Rolston, 1996, Ošlaj 2000). In other words, dilemma could be: 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 our 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 RESEARCH METHOD AND HYPOTHESIS

The research method is based on information transformation within a rational planning process. Applying standardised functions within a geographic information system, (GIS) the transformation of the information was carried out. Several geographic information systems were used: ArcView, IDRISI, ProVal. The point of the departure is the data base with the original spatial data. It represents physical reality transformed into the computer compatible form.

The hypothesis of the this methodological research is that by the help of the step by step planning procedure

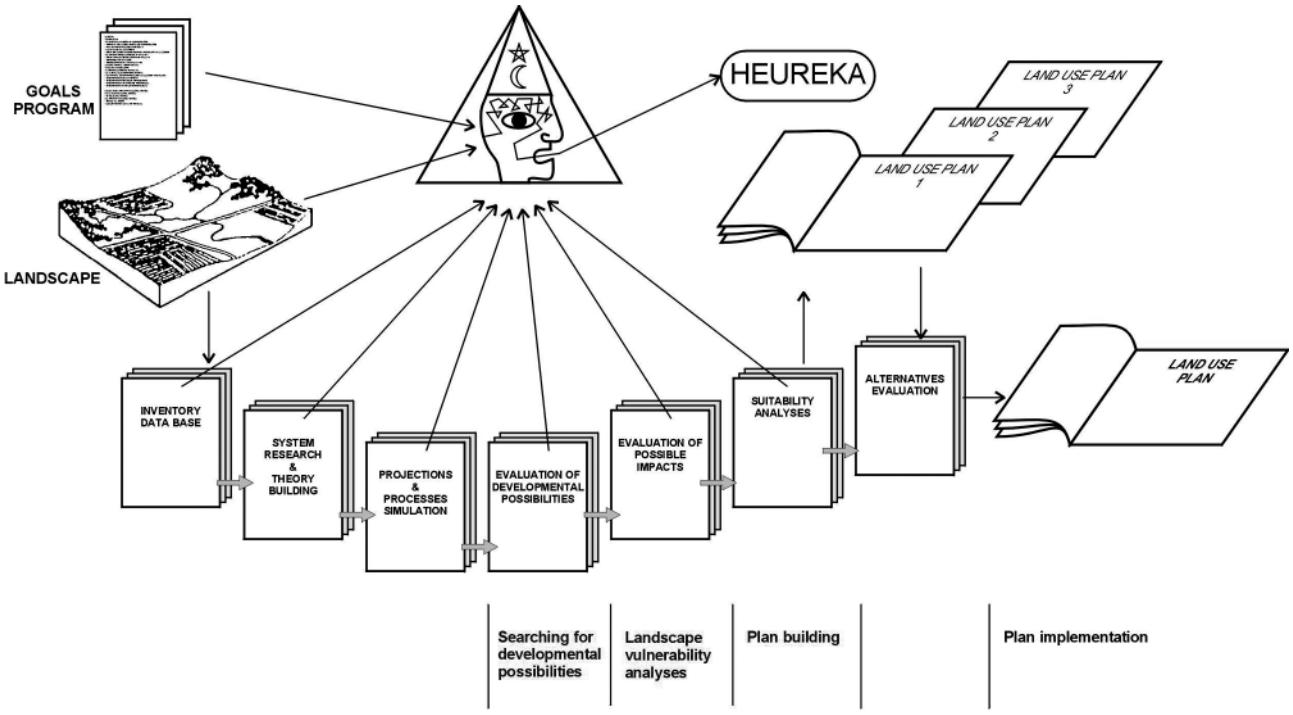


Figure 1. Methodology of planning process. Source: Marušič (2002)

the spatial data can be transformed into various forms, among them the suitability maps represent spatial projections of planning goals and objectives. Further, the hypothesis is that the value systems that can be detected within the society are transformed into planning goals and objectives and by the process of data transformation it is possible do develop maps with the representation of landscape values. In this way the extrinsic values are defined.

Figure 1 illustrates the information transformation stream as it occurs within a physical planning process. The process is designed as to answer questions like "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", (Marušič, 2002, p.98). Conservation planning task as defined corresponds to the basic planning of as least as reasonably achievable (ALARA).

Furthermore, 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, that is an attempt to externalise information in a step-by step procedure that leads to the solution of problem, attention is paid to the recognition of the planner's intuition as a complementary approach to the methodology of problem solving. The intuition does represent a specific methodological approach. Here we may quote Marušič (2002) who reminds that the intuition is needed among other reasons, 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.

The part of the Donje Međimurje region was used as the research polygon. The area on which analyses were conducted is presented in Figure 2. The additional metadata for the area are given in Table 1. The data base has been prepared during the year 2001 by the help of students. The data base was made operational in the way that topographic maps (scale 1:25000; sheets Kotoriba, Ušće Mure and Molnari) were used as source on what data vectorization was preformed. The data base was structured into 4 thematic layers: surface water, land cover, vegetation, infrastructure and comprises all together 40 of its corresponding attributes.

As the methodological experiment the planning of a golf-course was selected. This activity is complex

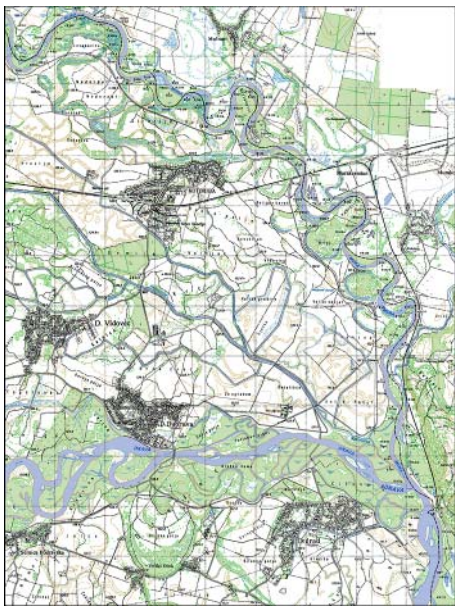


Figure 2. The planning area

Table 1. The metadata of the planning area

CS: GK6 Transverse_Mercator False_Easting: 6500000.000000 False_Northing: 0.000000 Central_Meridian: 18.000000 Scale_Factor: 0.999900 Latitude_Of_Origin: 0.000000
Georeference: Min x=6406000 Max x=6415000 Min y= 5127000 Max y=5139000
Pixel size:10mx10m

enough to enable the definition of different and opposing planning objectives.

Within this framework, value use is discussed from two standpoints: the experiment that was carried out involving the students as well as some experts and that of active Croatian conservation planning practice.

RESULTS

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. Landscape vulnerability analyses are 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, Butula (2003). 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. 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, is causing that difficulty.

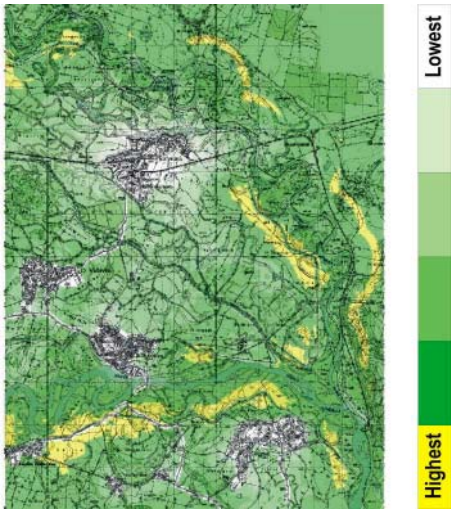
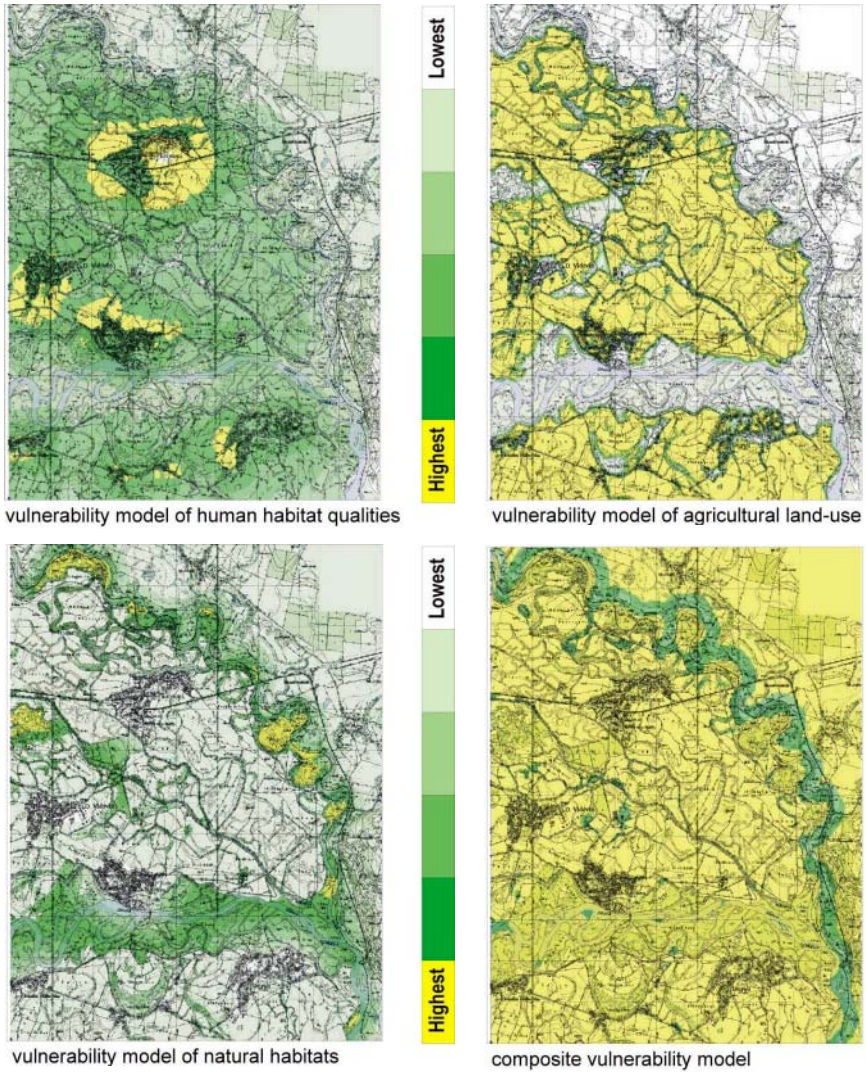


Figure 3. The golf course attractiveness model.
Source: student landscape planning studio works 2002/2003.



The evaluation of developmental possibilities (as it has been mentioned above - a golf course) for the planning area was "easily" conceptualised on the basis of information provided on spatial requests for golf. The concept is transformed into the attractiveness model for golf course, Figure 3. 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.

The evaluation of possible impacts - vulnerability analyses - is undertaken on three quality systems, as seen on Figure 4. 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

Figure 4. The golf course vulnerability models. Source: student landscape planning studio works 2002/2003

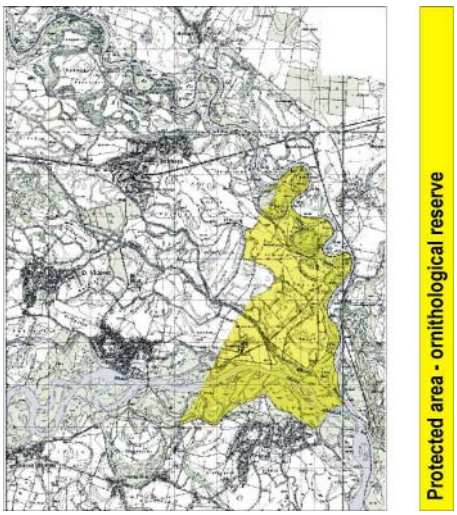


Figure 5. Normative approach to nature conservation

land that might be reduced due to the activity and (iii) what natural habitats are in danger of being transformed by the man's activity? The point where the intrinsic/predefined value intrudes into the evaluation is best seen in the vulnerability model of agricultural land-use.

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 4. This idea was more difficult to accept. The students that were also involved into the experiment were much more comfortable with the idea that the knowledge of a protected area (ornithological reserve, Figure 5), instantly signalises what is potentially vulnerable if considering naturalness in the area. It should be noted at this point that the part of the experiment carried out as a student's studio deployed only the Delfi technique (among students) and short communication with the planning experts as the modes to decrease subjectivity in assessments.

DISCUSSION

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 6.

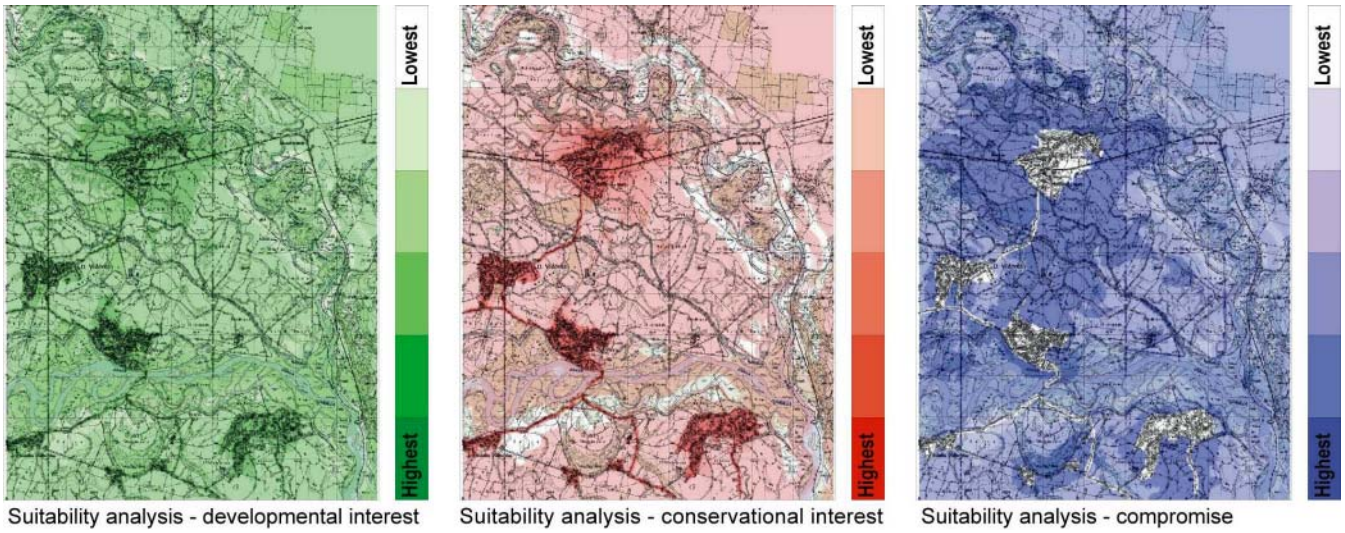


Figure 6. The suitability analyses outputs

Table 2. Conservation activities framework. Adopted from: National Strategy and Action Plan on Environmental Protection (2002)

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

The discussion on values employed within present Croatian practice perspective is based on the most prominent conservational issues that are presented in Table 2. They derive from the cover document that regulates Croatian environmental policy within the comprehensive projection for the development for 21st century. 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.

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. It is frustrating, both from the professional education standpoint and from the perspective of professional ethic: students are being trained in a profession the principles of which they are currently unable to apply in practice; while social responsiveness of a planner, the planner's duty "to create power for those who are not always recognised as being important", as O'Riordan stated (1995, p.4), is in question.

CONCLUSIONS

Landscape planning is a process that is perceived as more important than its results; this is the statement scholars agreed upon at Hannover Conference in 1999 as well as in Portorož Conference in 2002. From educational viewpoint, such understanding should be axiomatic. 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 education. Ogrin (2000) found such direction to be indispensable for diverse issues while mediating on the future of landscape architecture. Extrinsic landscape values are, as explained, nothing but the consequences of social interests in landscape. They are externalised social values that should show up in interim stages of plan building.

In the described experiment two distinctive and obviously conflicting types of goals have been studied. Therefore, a twofold approach to value

definitions was applied. We may speculate that even more braches of separate evaluation models could be defined. In fact, there could be as many separate groups of evaluation models as there are definable distinctive and conflicting goals. The methodological approaches have to be studied further as to resolve such more complex situations.

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