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Izvleček

Doktorsko delo se ukvarja s primerjavo mnenj kulturnih/nacionalnih skupin, ki si na državni meji delijo rečni prostor. Delo se osredotoča na vprašanje, kako različne kulturne in interesne skupine prednostno vrednotijo različne elemente rečnega prostora, ki vplivajo na spremembe opazovanega prostora. Mnenja so bila raziskana s pomočjo vrednotenja vizualne transformacije rečnega prostora s spremembami funkcije in pisnim vprašalnikom. Na ta način je bila razvita metoda predvidevanja in prepoznavanja potencialnih konfliktov pri načrtovanju rečnega prostora kot tudi ravni sprejemljivosti načrtovane prostorske spremembe v odvisnosti od začetnega stanja lokacije.
Disertacija prostorsko-načrtovalno temo raziskuje na naslednjih področjih:

1. na teoretski podlagi dokazuje, da so nacionalne skupine obenem tudi kulturne skupine, katerih vrednotni sistemi višjega reda vplivajo na okoljske orientacije, in da razlike v vrednotnih sistemih interesnih skupin predstavljajo potencialne konflikte v načrtovanju deljenega rečnega prostora;
2. za praktično sfero razvija metodo, s katero se opredeljujejo konkretne razlike v vrednotnih sistemih kulturnih in interesnih skupin v vrednotenju transformacije rečnega prostora s ciljem doseganja kulturne trajnosti načrtovanega prostora.

BIBLIOGRAPHIC-DOCUMENTALISTIC INFORMATION AND ABSTRACT

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Abstract

This doctoral dissertation deals with comparison of attitudes of cultural/mational groups who share the borders of a particular river area. The thesis is focused on the question of how different cultural and interest groups prefer different elements of river area which affects the changes investigated area. Attitudes are explored through visual evaluation of the transformation changes to the function of the river area and the written questionnaire. In this way, methods of prediction and identification of potential conflicts in planning of river area are developed, as well as the level of acceptability of the planned changes in reference to the initial state of the area.
The dissertation deals with spatial planning in the following areas:

1. The theoretical background shows that national/cultural groups whose value system of higher order affects the environmental orientation. It also demonstrates that differences in value systems of interest groups can become background for a potential conflict when planning the shared river area.
2. The practical part develops a method that defines the specific differences in value systems of cultural and interest groups while evaluating the transformation of the river area in order to achieve cultural sustainability of the planned area.

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KAZALO VSEBINE

3 FOUNDATION FOR THE STUDY

4 RESULTS AND RESULTS ANALYSIS

5 CONCLUSIONS AND REPHRASED RESEARCH QUESTIONS

6 SUMMARY

KAZALO PREGLEDNIC

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1 INTRODUCTION

1.1 Background to the research question

Since its definition by the Brundtland Commission (WCEC, Our common future, 1987) to Agenda 21 (UN, Earth Summit in Rio, 1992), a new concept of sustainability has developed into a paradigm that is present in national and regional development strategies. The concept of sustainability has been accepted through three pillars – economic, social and environmental. The report on the analysis of national strategies on sustainability (OECD Report, 2006) emphasises the environment itself as a dominant topic in most of the documents. The landscape and environment have for a long time been recognised only in the forms of natural values. According to the European Landscape Convention (CE Florence, 2000), the landscape is defined as: "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors", so that it was assigned the element of visual perception as well. The role of the public has been recognised in that domain so that the European Landscape Convention in its preamble calls for the public "to play an active part in the development of landscapes" because the landscape is no longer just a matter of natural sciences. Participation has the role of expanding the scientific scope. A great number of landscape researches strive to link the variables of technical and natural discourse with the social variable and to cross the chasm between the scientific or professional and the public.

The field of studying visual attributes and values of the landscape began to develop different models of valorisation even half a century ago, looking for objective criteria of visual quality. The scientists from the American continent have studied this topic with a stress on psychological, cognitive and phenomenological theories, analyzed them with different mathematical approaches and checked their conclusions in practice with concrete examples (Lothian, 1999). In the European research fields most recent researches have broadened their structural findings by using a holistic approach and by looking for indicators in line with the paradigm of sustainable development and its cultural dimension (Naveh, 2000; Palang, 2000; Tress et al. 2004, Antrop, 2000, 2006). In their studies the authors have researched the relationship between different types of landscape and scenic beauty, such as wetlands (Smardon and Fabos, 1976; Nassauer, 2004), town areas (Pogačnik, 1976;1979; Nasar, 1984; Galindo and Rodrigez, 2000), open spaces (Ulrich, 1986; Purcell and Lamb, 1990), highway areas (Garre et al. 2009), forests (Sheppard, 2001), and watersheds (Herzog, 1985; Ryan, 1989; Jessel and Jacobs, 2005; Junker and Buchecker, 2008; Buijs, 2009).

Expert studies have dealt with this to a great extent (Carver et al., 2001; Golobič, 2005; Golobič and Marušič, 2007) with a general conclusion about the positive influence of public participation in forming and accepting the planned alternations. Several researchers have ventured to conduct

international and transnational studies (Palmer et al., 1990; Yang and Brown, 1992) with research on the perception of participants with different cultural backgrounds (Buijs et al., 2008) and comparisons of expert approaches in different nations (Jakobsen et al., 2004). The more extensive transnational studies based their analyses on the comparison of age, level of education, place of residence etc. as well as the attitudes of different cultural groups, which have contributed to a high degree to the variability of the answers. This can be seen in research studies by photo surveys of visible changes in the environment that show differences in sensibility towards new phenomena in the perception of Asian and European respondents (Nasar, 1985; Palmer, 1992) as well as in the research on perceiving the wilderness which reveal a major difference between the attitudes of the domicile population of Western Europe and the immigrants (Buijs et al., 2008). Thus, "culture matters", as the global conclusion claims of one of the waves in the largest cross-cultural study, the World Value Survey by Inglehart and Welzel (2005).

Landscapes become international possessions, their values gain in global relevance. They compare and compete as "tourist destinations or places of interest by international organisations due to scarce or extraordinary ecological, cultural and aesthetic values" (Penker, 2009). Natural resources are neglected and endangered, as well as the areas under great pressure. Therefore, the planning in rural and open spaces should not done according to landscapes composed way back in the past, but should be planned as the shaping of the new social and economic system which relies on heritage and partially on contemporary cultural trends as well.

Regulation and melioration works in the Drava plain have had considerable impact on the development on its relief, as supported by the fact that the river flow has been reduced by 60 percent or by 182 km in the part from the Mura confluence to its confluence with the Danube (Bognar, 1985; Slukan-Altić, 2002). This has resulted in the increase of eroding force, whereas wood cutting in the source area as well as melioration works (embankments and drainage canals) have influenced the level of flood waters (frequent floods). The influence on the morphological forming of the river bed has been exerted by water steps and accumulations (Austria and Slovenia 19, Croatia 3). Current events around the Drava River basin have brought together international activities in the form of projects *The Mura-Drava Euro-region, Drava River Basin, and The Drava river Declaration* so that at the beginning of February 2008 the ministry of Culture of the Republic of Croatia declared the preventive protection of the Mura –Drava corridor in the category of "regional parks" in accordance with the Nature Protection Law (Official Gazette No. 70/05) of the Republic of Croatia. With Croatia's accession into the European Union the area along the Mura and Drava will become a part of the NATURA 2000 Network, as has already been the case in Hungary and Slovenia.

Spatial planning in its formal process does not possess a mechanism which would control the shaping, i.e. the aesthetics of landscape. Landscape shaping is generally influenced by four state mechanisms: market, institutional hierarchy, hybrid forms (public-private partnership, state-person contracts etc.) and networks (public and private organisations, civilian social movements, organisations etc.) (Penker, 2009). Other stakeholders are direct owners and users of open space. Tourists are an important group, whose focus is directly linked to a preserved and unique landscape. Developmental interests of these arenas do not always coincide in full measure so that conflicts may arise. Different interests at local, regional, national and even international levels also offer a foundation for overlaps and conflicts. Public opinion polls within these groups may point at a possible way of resolving those conflicts. Changes in value systems have been especially visible in transition countries (Cifrić, 2009). A public response and participant planning are contemporary topics in transition countries which have only recently reached the maturity of public arenas for participation in decision- making. A question is posed whether the structure of social attitudes will follow the impulses from western countries or whether they will contain to some degree the characteristics of both social systems, the former and the one which needs to be created (Milas and Rihtar, 1998). Croatia, Hungary and Slovenia are countries with different attitudes toward transition. Formal systems of planning are comparable, and the obstacles to possible coordination are objective. There is a question of how to achieve a decrease in potential conflicts in stakeholders' attitudes on transnational natural units and what influences the value system in planning the transnational element.

1.2 Working hypotheses

The space along watercourses is under a great influence of natural transformations, but there is at the same time a trend of the increase in anthropocentric influences in the form of new functions in that space. The creation of recreational, touristic, hydro-energy and residential objects as well as shaping the banks in harmony with nature influences this landscape in a completely new way. That is why the development issue is linked to the kind of relationship and attitude toward a river, the newly built units along the watercourses and how they reflect and the quality of life in this area.

This doctoral dissertation will pose a working hypotheses and research questions which should serve to either confirm or refute the hypotheses.

Working hypotheses:

H1 In planning new features along watercourses (the Mura and the Drava Rivers) the adequacy of the new landscaping/external appearance will be dependent on the evaluation of naturalness of the observed location.

H2 The same interest groups of different national backgrounds will show a similar tendency to changes along watercourses.

H3 Different ethnic groups will show different levels of sensitivity to the bank arrangement in accordance with nature.

Research questions:

I. What kind of changes in landscape (a change of one element, pattern, road, creation of hydroelectric power plants) represent a significant change in perception of different stakeholders?

II. Which demographic and structural characteristics of the population determine the attitude toward changes in appearance of different intensity in river areas?

III. How does an accumulation of cultural and historical influences shape the attitude toward human influence in harmony with nature?

1.3 Research goals and expected results

Spatial planning of a culture region in a time of fast and dynamic changes faces a conflict between the necessity to protect and the necessity to develop. Are we witnessing the birth of the middle road – a moderate development as a method of protection? Once there was a slogan in Austrian agriculture: "There is no culture without agriculture!" (Penker, 2009). River watercourses are specific natural phenomena which act as a medium in cases where one culture of living influence the other. A relationship to an area is expressed through values which are, from the position of sustainable development, separated into the ecological, economic, cultural and social ones. The information coming from the environment is modified in different groups of people, depending on socio-geographical filters and that information is not static but dependent on the state of an environment, on historical processes and the state of the society (Cifrić, 1987). Can we expect more progressive attitudes in relationship to the development along a river considering the fact that we live in a time of a global crisis or is the attitude toward the value of a river landscape a stable value in comparison to the economic state?

The theoretical outset and working hypotheses are the basis for the expected results and the aim of the dissertation:

The theoretical part of the dissertation:

- A rationale on ethical principles in the development of socio-ecological orientations
- Defining a culture group as a stakeholder in evaluating a river landscape
- The influence of the social and demographic characteristics of respondents and of the structural characteristics of the landscape in the human-nature interaction
- Defining the common goals of river management and spatial planning

The practical part of the dissertation:

- Detecting the acceptability of different scenarios in the development of a river area through visual transformation
- Defining the dominant elements in the system of evaluation of the visual transformation of a river area with different stakeholders
- The national cultural influence on the general attitude toward sustainable development of a natural landscape along watercourses

1.4 The applied research methods

This dissertation is based on a scientific explanation which has established a correlation between the respondents' characteristics (gender, place of residence, religion, motivational values, interest focus etc.) and the surveyed attitudes about the general concept of nature as well as about a river area. Secondly, there are descriptive and historical methods as an addition to and preparation for making a statistical analysis of the gathered results.

The selection of locations for making simulations has been made after the initial overview of the existent documentation and references. During the empirical tours of the riverine landscapes a set of photographs was taken with a particular emphasis on historical and important loci such as Veliki Pažut, the confluence of the Mura into the Drava, Molve – a locus for a smaller hydroelectric power plant, of a rural character situated along the watercourse with the Križnica settlement, a pedestrian bridge, ferries, meanders, aits, shoals, shallow lakes, technically arranged bank etc. A selection of a sequence of five colour photographs has been made which represent the characteristic and specific scenes along the observed watercourses displaying an increase of human influence.

A structured questionnaire consists of three parts. In the first part visual material is displayed representing the original and the modified scenes of the Drava and the Mura Rivers. A sequence of five original scenes was chosen depending on the human impact on the scene. The landscapes were shaped as a human living space, a resource and a natural ecosystem (Marušič, 1995) and were structurally modelled through four variables. The simulations were made by using the software packages Max3D and Photoshop PS. The second part of the survey researched a wider system of values related to nature, man, technology and culture, as well as the attitudes on protection and development linked to the river area. The third part of the questionnaire researched the age, gender, place of residence and other socio-demographic characteristics of the respondents.

The structure of the convenience sample was planned so that a comparison of attitudes of the following groups: cultural/national groups, different disciplines groups (according to Biglan, 1973)

and the attitudes of experts and the young population at the regional level. The convenience sample comprises the student population from three universities in the cross border region. The students from the University of Ljubljana (Slovenia), the University of Kaposvar (Hungary) and the University of Osijek participated in the survey. The experts whose attitudes were researched are also participants from the Slovenian, Hungarian and Croatian region. There were 421 students and 58 experts participating in the survey. The results were analyzed by using the statistical methods in the software package SPSS.

In addition to the survey, for the purposes of this doctoral dissertation, we have collected the data from national and international literature, articles and other sources, as well as overviews of other examples of research on the attitudes about the river area at the transnational scope, in order to enable a critical analysis of the researched topic. The results of the research are presented both in a graphical (maps, tables, visual simulations in colour photographs) and written manner.

1.5 The structure of the dissertation

The dissertation opens with an introductory part which presents the topic, the working hypothesis, the objectives, the expected results of the research and the research methods.

The second part offers an overview of the theoretical background in creating the research instrument and in interpreting the expected results. This chapter deals with the topic of the theory on culture groups, of values and cross-cultural values, ethical basis of socio-environmental orientations, of the human-environmental and human-river interaction. The definitions of values and value systems were Parsons (1991), Giddens (1998), Schwartz (1994), Hofstede (1984) and Williams (in Rokeach, 2000) were studied along with the definition of culture by Taylor (cited in White,1959), Kluckhohn (1994), Bodley (1994), Giddens (1998), and Linton (cited in Haralambos, 1994). Further on there is a scientific explanation of the theory on cross-cultural values, as suggested by Inglehart (1995), Inglehart and Welzel (2003), Hofstede (1983) and Schwartz (1994). On the basis of the definition of the moral scope by Leopold (1948), Kirn (2004), Cifrić (2009), Marušić (1995) and Naess (see Cifrić, 2002) there is a table overview of different concepts of socio-environmental orientations and dimensions. This is followed by an overview of the models for researching the visual domain of landscape according to the review papers by Arthur et al. (1977), Zube et al. (1982), Daniel and Vining (1983), Lothian (1999) and Sevenant and Antrop (2010). After that there is an overview of the graphic expression of the human-environmental interaction by Jacobs (2011), Zube et al. (1982), Sheppard (2001), Gobster et al. (2007), Tress and Tress (2001) and Fry et al. (2009).

The preference of specific landscapes depends on the human and environmental variable. The empirical and theoretical papers have been researched which speak of the influence of the former or the latter variable by the authors such as Ulrich (1986), Swanwick (2009), Kaltenborg and Bjerke

(2002), Kaplan et al. (1989), Chenowet and Gobster (1990), Herzog (1985), Pogačnik and Prelovšek (1987), Ode et al. (2009), Sevennat and Antrop (2010). The perception and preference of river areas is a separate topic within the preference of landscape in general. This was pointed out in works by Kuiper (1998), Burmil et.al. (1999), Brown and Daniel (1991), Ryan (1998), Herzog (1985), Le Lay et al. (2008) and Buijs (2009). The first part concludes with an overview of the spatial and planning tendencies and the meeting points with the management of the river area in the overview of articles by the authors from the Dutch and British area (Healy,1992, 2004; Albrechts, 2004; Salet and Faludi, 2000; Moss, 2004; Van der Brugge, 2005; Wiering and Immink, 2006).

The first part of the research offers the preparation for the creation of visual simulations – the selection and the description of the locations, the selection of the colour photographs and the simulated scenario. The questionnaire and the questions will be formed on the basis of the simulations.

The third part develops the research method, the research frame and the frames for grouping of the observed stakeholders. The selection criteria of the original scenes are described and there is an analysis of the structure and the variables of modifying the original scenes with the descriptive scenarios. Then there is a description of the data collection progress and procedure by surveying the three cultural/national groups and the experts.

The fourth chapter offers the rationale for using computer programs to analyze and process the data (Microsoft Excel, SPSS). The results of the research are presented as the results of the total sample and the comparison of the results of different stakeholders.

In the fifth chapter a commentary is offered as well as the generalisation of the results, the principle and the special conclusions, the contribution to science and to the spatial planning profession. The dissertation concludes with a critique of the approach and the suggestions for further research.

The conclusion of the doctoral dissertation presents the reflection on the possibilities of transnational spatial planning of natural phenomena. The dissertation ends with the appendixes and the resources used.

2 THEORETICAL OUTSET

In this chapter we shall offer an objectivist and subjectivist paradigm of landscape in philosophical discussions and in scientific and professional debates. An overview will be provided of the research on human values within ethics, the relationship between values, environmental attitudes and environmental behaviour as well as of the concepts of culture, cross-cultural research and differences and meeting points in spatial planning and river management.

2.1 Ethics and values

A fundamental relationship of human towards nature has been changing through history. The interpretation of virtue and good, egoism, altruism, happiness, innateness and right as well as of other definitions in ethics follows the path of qualitative leaps, and not of continuity (Kirn, 2004). A turning point comes with the Rationalism in the 17th century and the Enlightenment which transformed into the scientism of today (Bezić, 1995). The criterion of scientific quality has required a strict separation of the subject and the object where science was strictly deprived of any subjectivity. The German philosopher Immanuel Kant (1724-1804) established the modern principles of ethics, taking into his focus of observation the manner of conception of a human moral and practical sphere and the manner of evaluating moral actions. He assigned morals to the human sphere, and everything else was separated as the object. Philosophical ethics branches into general and applied ethics. General ethics branches into normative, descriptive and metaethics. Ethical beliefs in the form of values are a part of descriptive ethics which, among other topics, classifies and sums up the relationship of human and nature.

The practice of ethics in society can be found in the notions of values, value orientations and attitudes. Wiliams (cited in Rokeach, 2000) defines values as one of normative elements which represent a *criterion of desirability*. The second element is the *norms* in the form of requirements, expectations and rules. The author relates values to the concepts of knowledge and beliefs, adding that values are measured through attitudes, and are expressed through *judgment*, *preference* and *choice*.

The sociological notion of values was improved at the beginning of the 20th century by theoreticians such as Weber, Pareto, Durkheim and Simmel (Buchecker, 2009). They had a direct influence on the theoretician Talcott Parsons who in his book *Toward a General Theory of Action: Theoretical Foundations for the Social Sciences* (2001) observes values through the aspect of the functioning of society, posing questions such as to what extent are societies homogenous regarding values and what is the society's "capacity" in reference to the coexistence of opposed values. Parsons suggests social values as a source for introducing and directing social action. Social values are represented as a

framework we use to adjust our choices at an individual level. He introduces the concept of "*pattern variables*" which are interpreted as five fundamental choices: to listen to your own emotions or to remain emotionally neutral; to be oriented by your private interests or by the interests of the collectivity; to listen to universal norms or to specific norms; to interpret the behaviour of the others or to evaluate by using their assigned qualities; whether or not a particular relation is only one of many various among the same participants. The critique of Parsons' theory refers to the static frames of social values and to the interpretation of the dynamics of individual value orientations only (Jonas, 1992, according to Buchecker, 2009).

Giddens (1998) differentiates societies and cultures and says that "there is no society without culture" and he notices that the reasons for changes in culture are in the social changes. He explains values with the notion of abstract ideas which "provide meaning and direct people in their interaction with society." He considers cultural norms and values rooted in society and slow to change. According to Giddens (1998), the potential and possibility to change social values and norms is connected to creativity and opposition of "subcultural and countercultural" values and norms whose standpoints represent an alternative to dominant social standpoints. Further on, he lists various possible cultures within a society and links them to music, ideology, environmental orientation, sport etc.

Schwartz claims that value is "(1) a belief, (2) pertaining to desirable end states and modes of conduct, that (3) transcends specific situations, (4) guides selection or evaluation of behaviour, people, and events, and (5) is ordered by importance relative to other values to form a system of value priorities" (Schwartz, 1994:20). Further on, he makes three existential claims for shaping motivational values: needs as biological organisms, requisites of coordinated social interaction, and requirements for the smooth functioning and survival of groups. Thereafter, the author extracted four basic value clusters: self-transcendence, self-enhancement, openness to change and conservatism.

Value content has been researched in different ways. Rokeach based his choice of researched values on intuitive choice (according to Schwartz, 1994), whereas the other group compiled a list of values empirically. Schultz compiled his value list empirically by doing a cross-cultural content analysis of answers to the following question: "What is the environmental problem that concerns you the most and why?"(Schultz, 2000 cited in Amerigo et al. 2007).

According to Hofstede (1981) values have *intensity* and *direction* and also *size* and *sign.* Values can be *desired* or *desirable.* Hofsted gave an overview of assigned characteristics presented in Table 1 in his book *Culture's Consequences: International Differences in Work-related Values* (1981:20). Desired values can thus be related to Parsons' "pattern values", whereas desirable values represent a wider frame of social values.

Preglednica 1: Razlikovanje med t. i. želenim in zaželenim in sorodnimi razlikovanji (Hofstede, 1981: str. 20)
Table 1: Distinction between the desired and the desirable and associated distinction (Hofstede, 1981: p 20).

NATURE OF A VALUE	THE DESIRED	THE DESIRABLE
dimension of value	intensity	Direction
nature of corresponding	statistical,	absolute, deontological,
norm of value	phenomenological, pragmatic	ideological
corresponding	choice and differential	approval or disapproval (based on
behaviour	effort allocation	Kluckehohn (1951:404-405)
dominant outcome	deeds and/or words	Words
terms used in	important, successful, attractive,	good, right, agree, ought, should
measuring instrument	preferred	
affective meaning	activity *plus* evaluation	evaluation only
of this term		
person referred to in measuring	me, you	people in general
instrument		

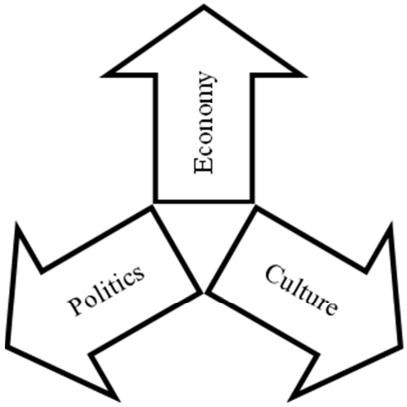
Values on an individual level are learned (Williams, in Rokeach, 2002) and the author compares them to an experience of anticipating emotion (pain, leisure, success, defeat, affirmation etc.). The transition from individual to cultural values is found in the communication on acquired experiences of a larger number of culture members. Mass experience present in wider communication can shape group culture values. The educational system influences significantly the forming of attitudes both on an individual and social level (Hofstede, 1983; Schwartz, 2006). The influence of education on value system formation has been studied from the sociological aspect. French sociologist Durkheim (1858-1917) considers education to be a component which prompts and strengthens the homogeneity of society, so that an individual becomes a social being by acquiring it. The interaction of education and society happens through values which pass from the society onto an individual. Education is a processual medium where there is a parallel development of the educational system and social changes. Durkheim explains that “every society, considered at a given moment in its development, has a system of education which is imposed on individuals” (Durkheim, cited in Filloux, 2002:305).

2.2 Cross-cultural values

The definition of culture has been studied in the realm of sociology, and has been most frequently defined as *a way of life.* In 1871, in *Primitive Culture.* E. B. Tylor described culture as: “a complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by a human as a member of society’(cited in White, 1959:23). In 1944, in *Mirror for Man* Kluckhohn’s definition of culture also starts with “the total way of life of people” and follows with “the social legacy the individual acquires from his group”; “a way of thinking, feeling and believing”; “an abstraction from behaviour”; “a theory on the part of the anthropologist about the way in which a group of people in fact behave”; “storehouse of pooled learning”; “a set of standardised orientations to recurrent problems”; “learned behaviour”; “a mechanism for normative regulation of behaviour”; “a set of

techniques for adjusting both to the external environment and to other man"; "a precipitate of history" (Kluckhohn, 1944 cited in Geertz, 1973:4). Kluckhohn's integral definition is as follows: "culture consists in patterned ways of thinking, feeling, and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values (Kluckhohn, 1944, cited in Hofstede, 1981:9).

Giddens (1998:22) says that "cultures are difficult to understand from the outside" and that they should be studied inside their values and relations. He calls this idea "cultural relativism" and links culture exclusively with the learned, and not with the inherited aspects of life. He sees socialisation as a principle road to transmitting culture in time and between generations. Same as Parsons, he prefers hierarchically the individual values to the social ones. The social values are transmitted into the concept of social identity, and the individual ones into personal identity. He claims that social identity is a collective dimension defined by a set of common goals, values and experiences which may be a foundation for social changes. Social identity is defined as a dimension denoting "that individuals are the same as the others". Personal identity is explained in the context of modernisation and the increasing possibilities and choices. He claims that personal identity "is constantly created and recreated" (Giddens, 1998:23). A social change of the premodern society is interpreted through three factors: the environment, political organisation and cultural factors. The environment is seen as an influential factor if it is in its extreme form (extreme natural conditions) or if the environmental conditions shape the way of life intensively (the environment shapes the favorable or unfavorable conditions). Political systems are not related to economic organisations but he does not analyze explicitly the relationship between the changes and the political system in premodern, but in modern countries. Out of the set of cultural factors influencing the changes he sets apart religion, the nature of communication systems and leaders. He sees the economic, political and cultural influences as sources of changes in the modern age (Figure 1). At the same time, just like Inglehart and Welzel (2005), he considers industrialisation to be an important factor. The interaction of science and technology with political and cultural areas is seen by Giddens (1998) as very important. The way in which culture influences social changes has also been altered. A critical and innovative way of thinking has changed the content of ideas, so that customs and habits are not accepted anymore because they have the authority of tradition, but we re-evaluate them by using new social values.



Slika 1: Vzroki za spremembe družbenih vrednot v sodobnem času (Giddens, 1998: str 42) .
Figure 1: Causes of changes in social values in modern times (Giddens, 1998: p 42).

Linton claims that "the culture of a society is the way of life of its members; the collection of ideas and habits which they learn, share and transmit from generation to generation" (cited in Haralambos, 1994:33). Culture is, according to some researchers, a natural category and has its own material evidence, whereas, according to others, it is an idea, or a set of ideas of all people or of ethnologists only (White, 1959). The sociological aspect of culture presupposes its reality and holds that it happens with the society. Culture develops in the dimensions of values, norms, ideas, beliefs, attitudes, traditions and artefacts. Culture definitions designate it as learned, unconscious, to be shared, symbolic, dynamic and relative.

As a research goal of this dissertation, the theory on cultural values and cross-cultural value research have been considered. There are three most frequently quoted cross-cultural theories and authors: Hofstede, Schwartz, and Inglehardt and Welzel.

Hofstede's study was based on the responses of 116,000 personnel from a large American-owned multinational company (IBM) in the period between 1967 and 1973. On the basis of a factor analysis of mean responses from forty nations[1] on fourteen items concerning the importance of different work goals, Hofstede identified two factors that he labelled *individualism* and *masculinity*. A further two dimensions of national culture labelled *power distance* and *uncertainty avoidance* emerged from a so-called eclectic analysis, combining items largely on the basis of theoretical expectations (Smith and Dugan, 1996). Hofstede's *power distance* dimension is defined in terms of the prevailing norms of inequality within a culture. *Individualism-collectivism* refers to the extent to which the identity of members of a given culture is shaped primarily by personal choices and achievements or by the groups to which they belong. Individualist cultures promote introspection and focus attention on inner experience. In contrast, collectivist cultures do not encourage focusing attention on the inner self – the most salient features of emotional experience are external and interactional. Research confirms that

[1] The then state of Yugoslavia also participated in the research.

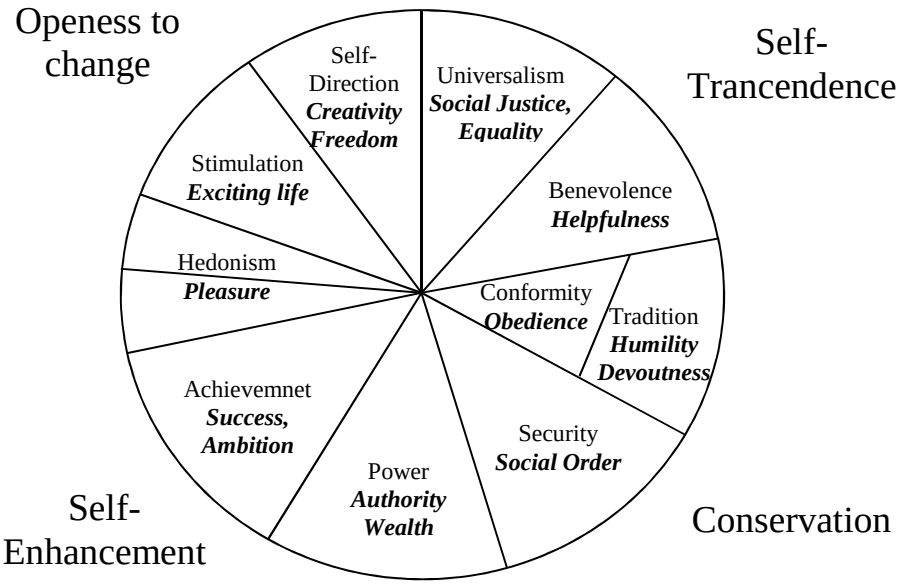
cultural individualism is correlated with subjective well-being when high income, human rights and equality are controlled (Diener and Diener, 1995 cited in Basabe and Ros, 2005). *Masculinity-femininity* corresponds to a "tough-tender" dimension. In masculine cultures, values such as competition, success, and performance are relatively more prevalent than in feminine cultures, where there is relatively more emphasis on values such as warm social relationships, quality of life, and care of the weak. The fourth dimension, *uncertainty avoidance*, alludes to the degree to which members of a culture are uncomfortable with uncertainties in life. Societies high on this dimension prefer structured rather than unstructured situations, where there are clear guidelines for behaviour (Smith and Dugan, 1996). Hofstede's analysis of his data bank was later expanded to 53 cultures (Hofstede, 1983).

The author presents three basic reasons for linking values to the concept of society, i.e. nation: the political, the sociological and the psychological reason. While elaborating the psychological reason Hofstede evokes the educational system, as well as early family education. He stresses education as the most important in shaping the national cultural framework and calls it *collective mental programming*, defining it as follows: "…it is that part of our conditioning that we share with other members of our nation, region, or group but not with members of other nations, region, or groups" (Hofstede, 1983).

Schwartz (2009:262) defines values as follows:
"Values are beliefs. But they are beliefs tied inextricably to emotion, not objective, cold ideas.
Values are a motivational construct. They refer to the desirable goals people strive to attain.
Values transcend specific actions and situations. They are abstract goals. The abstract nature of values distinguishes them from concepts like norms and attitudes, which usually refer to specific actions, objects, or situations.

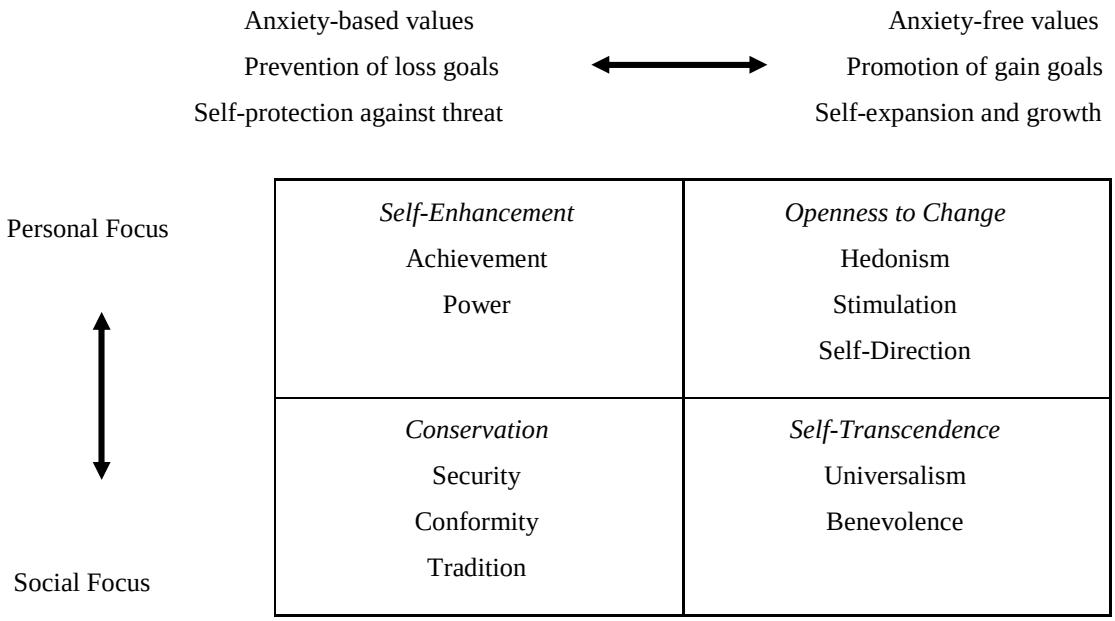
Values guide the selection or evaluation of actions, policies, people, and events. That is, values serve as standards or criteria. Values are ordered by importance relative to one another. People's values form an ordered system of value priorities that characterise them as individuals. This hierarchical feature of values also distinguishes them from norms and attitudes."

He proposes a multidimensional value space which he usually represents in a multi-dimensionally scaled "value circle" (Figure 1). Schwartz identifies ten different values which are paired in polarities along which these values cluster: egoism versus altruism (in Schwartz's terminology: self-enhancement vs. self-transcendence) and conformism versus individualism (conservation vs. openness to change).



Slika 2: Teoretični model odnosov med desetimi vrstami motivacijskih vrednot (Schwartz,2006: str 3).
Figure 2: Theoretical model of relations among ten motivational types of values (Schwartz, 2006: p 3).

Schwartz and associates developed empirical research that examines the value hierarchies of individuals in different nations. They base their research on three different sets of samples, a representative or a near representative sample, college students and a school teacher sample in order to answer the question: *Does the average value hierarchy based on representative or near representative samples also characterise more specific groups and does it generalise across a larger set of nations?*. They identified a set of cross-cultural similarities and differences and then developed explanations for them. Schwartz (1994) surveyed value preferences of individuals in twenty five countries. Results showed that **benevolence** consistently emerges at the top of the value hierarchy, with **self-direction** and **universalism** close behind. Security, conformity and achievement are located in the middle of the hierarchy, followed by hedonism. **Stimulation, tradition, and power** are at the bottom of the hierarchy, with **power** consistently last. Individual differences in the importance attributed to values reflect the individuals' unique needs, temperaments, and social experiences. But the pan-cultural similarities in value importance are likely to reflect the shared bases of values in human nature and the adaptive functions of each type of value in maintaining societies (Schwartz and Bardi, 1997). Schwartz (2001) claims that there is a great deal of variation in the importance of individual values both within groups and across societies (Figure 3). This variation in individual values is systematically related to differences in individual behaviour (Rokeach, 1973; Schwartz, 1996) and it arises from systematic differences in social experience (Rokeach, 1973). Differences help us identify the influences of unique genetic heritage, personal experience, social structure and culture on value priorities.



Slika 3: Dinamične podpore univerzalnih vrednostnih struktur (Schwartz, 2009: appendix: str 9).
Figure 3: Dynamic underpinnings of the universal value structure (Schwartz, 2009: appendix: p. 9).

Inglehart imported into cross-cultural research several concepts of value change by suggesting a one- and two-dimensional concept. Following Maslow's hierarchy of needs, Inglehart (1997) suggested that value orientations are organised hierarchically on a uni-dimensional continuum from material to post material values. Inglehart (1997) considers life security to be a key variable. In analyzing the importance of the material he evokes Maslow's hierarchy of needs and relates the concept of self-expression values to conditions when material security is of a long standing character. The shift from the materialist to post-materialist values is explained by Inglehart as non-linear. Inglehart's materialists have physiological needs and stress physical and economic security. Post materialists, by contrast, strive for self-actualisation, stress the aesthetic and the intellectual, and cherish belonging and esteem. Inglehart's theory of value change is one that assumes a linear progression in steps upwards of Maslow's pyramid. Once physiological lower-order needs are met and appear uncontested, individuals develop higher-order needs.

Inglehart and Welzel (2005) suggested a two-dimensional value space and conducted a cross-cultural World Values Survey on seventy five societies amounting to eighty percent of the world population. A global conclusion of the survey confirmed Huntington's thesis that "culture matters", as well as it defied the claim that the differences are based on the level of democracy of a culture, but it pointed out that its root is in gender in/equalities and sexual liberalisation (Inglehart and Welzel, 2005). The World Values Surveys were designed to measure all major areas of human concern: religion, politics, economic and social life. The research is based on differences measured along two dimensions: (1) Traditional vs. Secular-rational values and (2) Survival vs. Self-expression values. The first dimension shows the contrast between societies in which religion is very important and those in which it is not. In

traditional societies of high importance are: parent-child ties and deference to authority, absolute standards and traditional family values, as well as rejection of divorce, abortion, euthanasia and suicide. These societies have high levels of national pride, and a nationalistic outlook. Societies with secular-rational values have the opposite preferences on all of these topics (Inglehart and Welzel, 2005). The second dimension is linked to the extension of the moral object. They suggest that individual safety and autonomy decrease egocentrism, and their growth increases homocentrism (Maslow, 1988, cited in Inglehart and Welzel, 2005). They further analyse the topic through the concept of a dynamics between materialistic and post materialistic priorities. The authors conclude that self-expression values encourage the perception of risk, but that the development of self-expression values does not subsume eradication of human material needs. The authors further point out and explain that cognition and experiences are the causes of value change. At the same time they offer a critique of Weber's theory on the rise of a rational worldview through the spread of scientific knowledge with the example of Central and Eastern Europe. The changes linked to the fall of communism are studied in relation with the phenomenon of the spreading of scientific knowledge, and the change of the system of values is linked to the experiential change in existential security, uncertainty and a decline in the standard of living. In the case of the change of life circumstances and the decrease of security there is a reversion in value priorities, a shift backwards. The authors conclude on the basis of empirical results that the sense of existential security pervasive in a society is more important than cognitive factors and that cultural change is not determined by simple cognition and rational choice but by exposure to different existential conditions. The change in culture is linked to the accumulation of tolerance and not to short term fluctuations. Inglehart and Welzel are the only ones among these cross-cultural researchers dealing with the relationship of culture and democratisation and within this with the attitude toward institutions. The authors differentiate between the inertial variables (socioeconomic development) and those which change in an explosive manner (democratisation and institutional changes). Post-industrial values are related to the weakening of the respect for authorities and the growing support to participation and expression. The basic concept stressed by the authors as a central topic is a concept of "a demand for freedom" which in empirical research displays the strongest factor loading toward the higher order concept – self-expression values. Besides the fundamental meaning of freedom, the authors relate the demand for freedom to an ecological and ideological orientation which emphasises the environment protection and preservation and humane society. They also conclude that the self-expression and not secular-rational values reflect cultural change. The succession of changes from cultural to political at the end is represented in a linear manner in Figure 4.

Slika 4: Človekov razvoj, Inglehart in Welzel (2005: str 140).
Figure 4: Human development, Inglehart and Welzel (2005: p 134).

Inglehart (1997) and Inglehart and Welzel (2005) concluded on the basis of the empirical research on world nations in several waves that the affiliation of a society to a cultural zone depicts a common state of traditional or secular-rational values, but that human development, the change, is primarily directed toward the development of self-expression values

Scientific literature also studies the mutual link of value dimensions of these three concepts: Hofstede's concept of collective mental programming, which is national; Schwartz's multidimensional concept of values and Inglehart's concept of opponent values which determine the state and the change.

Preglednica 2: Vrednosti višjega reda, ki temeljijo na medkulturnih študijah avtorjev Hofstede, Schwartz in Inglehart in Welzel
Table 2: Higher order values based on Hofstede, Schwartz and Inglehart and Welzel cross-cultural studies

Hofstede	Schwartz	Inglehart
Individualism-collectivism	Self-transcendence	Traditional
Masculinity-femininity	Self-enhancement	Secular-rational values
Power distance	Openness to change	Survival
Uncertainty avoidance	Conservatism	Self-expression values

Table 2 offers an overview of higher order values for all three authors, whereas Table 3 displays a common platform of dimensions used by the three authors, which was reached by Inglehart and Welzel (2005) and confirmed by other authors.

Preglednica 3: Ekspresivne vrednote in obseg individualizma in samostojnosti se nanašajo na skupno dimenzijo (Inglehart in Welzel, 2005: str. 143)
Table 3: Self-Expression values and individualism and autonomy scales tap a common dimension (Inglehart and Welzel, 2005:p 137**).**

The Individualism/Autonomy/Self-Expression Dimension:	78%
Emphasis on Intrinsic Human Choice (Principal Component Analysis	Variance explained
Inglehart: Survival vs. Self-expression values	.91
Hofstede: individualism vs. collectivism ranking	.87
Schwartz: Autonomy vs. embeddedness (mean of student/teacher samples)	.87

We conclude that values originate in individual knowledge acquired through experience and perception which can shape the cultural value of a society through mass communication. There is interaction between individual and social values. Values as a general concept are a stable category (Williams, in. Rokeach, 2000), but we can distinguish the values which are more or less static (Inglehart and Welzel, 2005). The change in values happens in qualitative leaps, and not in continuity and depends more on accumulated tolerance than on a relative shift of some value (Inglehart and Welzel, 2005). Values are also learned so that education is an important medium in forming social values (Hofstede, 1983; Schwartz, 2006; Durkheim cited in Filloux, 2002). Age is also an influential factor in a value system, which instigates the so called intergenerational value changes (Inglehart and Welzel, 2005). Values are submerged in the concept of culture. Culture is expressed through "government, legal systems, educational systems, industrial relation systems, family structures, religious organisations, sports clubs, settlement patterns, literature, architecture, and even scientific theories" (Hofstede, 1981:). "Culture matters", i.e. societies differ according to their different cultural values and structures, but there are the ever present, universal values, too. Extensive global cross-cultural surveys of the leading scientists in the field show the results whose values correlate for the concepts of individualism, expression and autonomy whose common denominator is in the values related to human freedom and freedom of choice. The differences between cultures are more influenced by "Eros than Demos" (Inglehart, 2003). Cultural differences and similarities should be observed through opposing themes and through the analysis of a national sample. At an individual level the differences become less dominant (Schwartz, 2001; Inglehart and Welzel, 2005) but are still in interaction with a social level so that they may reflect it (see Figure 5).

Slika 5: Tri ravni edinstvenosti v duševnem programiranju (Hofstede, 1991: str 6).
Figure 5: Three levels of uniqueness in mental programming (Hofstede, 1991: p 6).

The research design followed the concept of cross-cultural differences according to Hofstede (the idea of national culture) and according to Schultz's environmental value orientations by following his definition of values. The comparison of attitudes of different stakeholders was researched by comparing attitudes at a national level. Schwartz's value theory in research on environmental orientations was applied by Schultz and Zelezny (1999) at a cross-cultural level of general landscape and by Buchecker and Junker (2008) in researching the attitudes of the Swiss nation relationship to the changes in riverine landscapes. The research included a cross-cultural comparison of confidence toward institutions and of attitudes on international cooperation in managing natural phenomena (rivers).

2.3 Three different cultures

"We make landscapes according to the political system in which we operate, the economic use we see for land, our aesthetic preferences, our social conventions - all of these are summarised here under the label of culture." (Nassauer, 1995:230).

Slovenian, Hungarian and Croatian cultures are assumed to be three different cultures as they do not have "a common dominant language, do(es) not share mass media and national symbol" (cited Hofstede 1980 in Schwartz, 1999:25). Nowadays all three nations have a democratic political system but they have had different political ways of achieving them. Once being a part of the common Austro-Hungarian state (until 1918) all three countries had a common political frame. In the period afterwards, Slovenia and Croatia retained a common political history during the second part of the 20th century by being a part of the state of Yugoslavia. Slovenia became an independent country (1991) by secession, whereas Croatia underwent military actions (1992-1995) in order to achieve territorial sovereignty. Hungary was under Russian occupation during the mid 20th century. In 2004 Slovenia and Hungary joined the European Union and Croatia is in the period of accession. Inglehart and Welzel (2005) mention that political culture is influenced by "individual attitudes" and "participant orientation". They conducted an empirical research which established that citizens' expressive values shape a democratic society, and not vice versa, that a democratic society influences the shaping of attitudes. They include three aspects of culture research: the legitimacy approach (confidence in the institutions and support for a system), the communitarian approach (conformity to norms, activity in associations and interpersonal trust) and the human development approach (aspirations for freedom and choice). The third approach to researching political cultures is in favour of linking the activities against the elites with previous experience in democracy, i.e. with the length of that experience. Thus the research hypothesized that Hungary, Croatia and Slovenia, assuming their different experiences as democratic societies, are in different positions to "participant orientation". Schwartz (1994) compared the intra- and inter-country cultural distances across various nations. He finds that the cultural distance

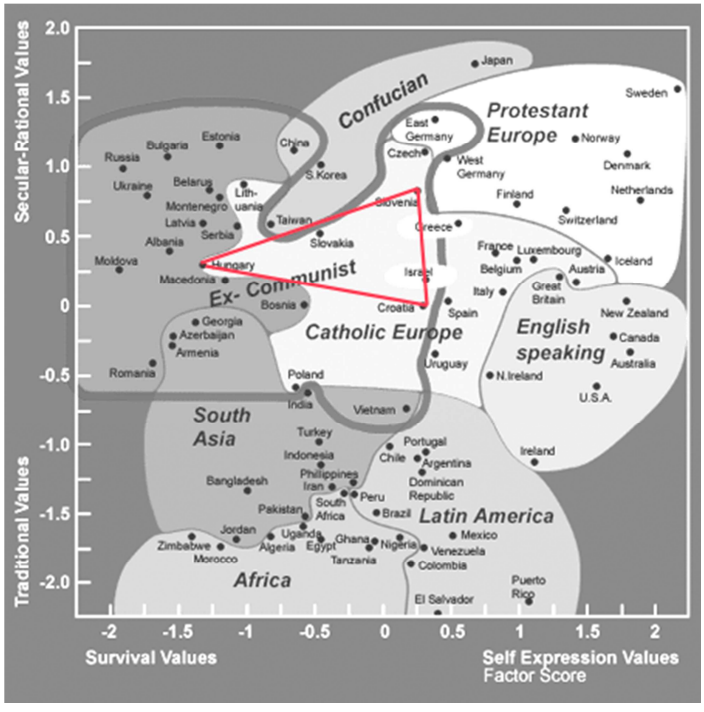
between samples from different countries is greater than the distance between samples from the same country, suggesting a similarity of cultural value orientations within a nation that could be used as meaningful cultural units. Table 4 displays the results of the global research in Hofstede (2010) and Inglehart and Welzel (2010), and in Figure 6 and Table 4 there is a focus on the position of the three observed cultures/nations in the World Value Survey Cultural Map.

Preglednica 4: Velikost zadnjega merjenja vrednosti po Inglehart in Welzel (svetovni vrednosti val 4) in Hofstedeju
Table 4: Values by Inglehart and Welzel (World Values wave 4) and Hofstede

	Dimensions of values					
	Inglehart and Welzel (2010) *		**Hofstede (2010)****			
Nation	Traditional Rational values	Survavial Self orineted values	Power Distance	Individualism/ Collectivism	Masculinity/ Femininity	Uncertainty avoidance
Croatia	0.08	0.31	73	33	40	80
Hungary	0.40	-1.22	46	80	88	82
Slovenia	0.95	0.38	71	27	19	88

*WWS – 4 wave

** http://geert-hofstede.com/geert-hofstede.html



Slika 6: Kraj Madžarsko, Slovenijo in Hrvaško na svetovni kulturni zemljevid vrednota, proti Inglehart in Welzel, 2005: str 63.
Figure 6: Positions of Hungary, Slovenia and Croatia on the World Values Survey Cultural Map by Inglehart and Welzel, 2005: p 63.

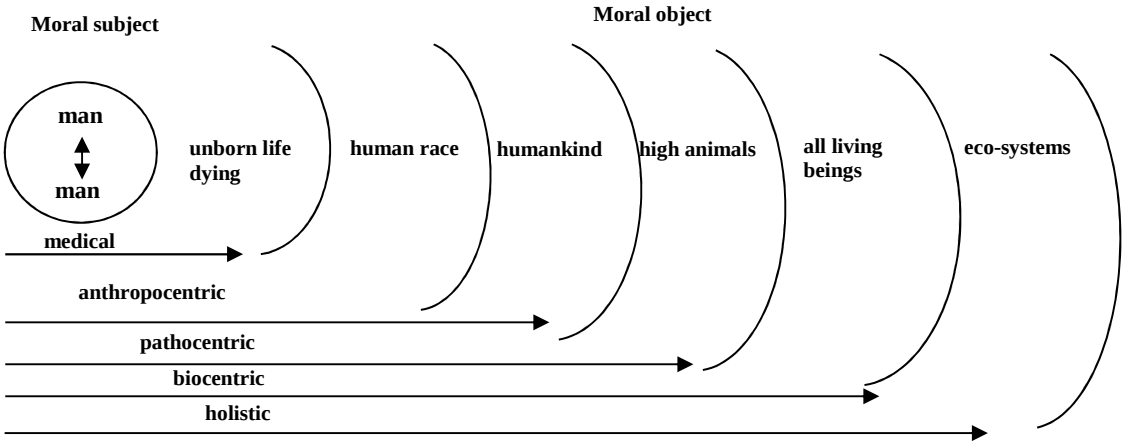
According to the theoretical overview of cross-cultural research and the relationship of the constructs, we can interpret Table 4 which provides the data on the observed three countries. The greatest difference is noted in Survival vs. Self-oriented values, which, according to Ingelhart and Welzel (2005) and Basabe and Ros (2005), correlate with individualism/collectivism (Hofstede) and autonomy vs. commitment values (Schwartz). The results expressed for Hungary carry a negative sign, whereas the results for Croatia and Slovenia are positive and similar. In line with this, a difference in attitudes is expected which would form two poles – a Hungarian on the one hand and a Slovenian on the other. Since expressive values contain environmental orientations, it is expected that Hungarian respondents (students) would express to a lesser degree the attitudes in which they proclaim environment protection and care for others (altruism) than the Slovenian and Croatian ones. The same is expected considering the results of Inglehart and Welzel's (2005) (Figure 6) research of correlation of Post-transition freedom and Liberty Aspiration for the three countries, i.e. that Croatian respondents would express a lower level of social confidence than the Hungarian ones, and even greater difference is expected for Slovenian respondents.

2.4 Moral subject and moral object in the relationship of human and nature

In the period of the modern, post paleolithic and post neolithic human, anthropocentric ethics developed in the European area when economic forces managed the environment and morals originated in human nature (Lončarić-Horvat, 2003). Kirn (2004) explains anthropocentrism in four theses: (1) man is a central and most important being in the universe, (2) man is the measure of all things, (3) the world is interpreted according to a human's values and human's experience and impression and (4) only humans create a moral community.

Awareness of destruction of nature and the necessity for change appeared already in the 19th and at the beginning of the 20th century. A new direction in the -nature relationship was initiated by environmental problems and an environmental crisis. This was publicly and globally confirmed by the United Nations Declaration on Human Environment (Stockholm, 1972) so that the change was evident in equating what is good for nature is also good for man.[2] Morals thus still originate in man himself but nature is absorbed as a moral object, which is the basis of ecological ethics (Kirn, 2004).

[2] The Declaration proclaims:
1. Man is both creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth. In the long and tortuous evolution of the human race on this planet a stage has been reached when, through the rapid acceleration of science and technology, man has acquired the power to transform his environment in countless ways and on an unprecedented scale. Both aspects of man's environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights the right to life itself.
http://www.unep.org/Documents.Multilingual/Default.Print.asp?documentid=97&articleid=1503



Slika 7: Koncept moralne odgovornosti za življenje (Cifrić (2009:str 71).
Figure 7: The concept of moral responsibility for life (Cifrić (2009: p. 71).

Krebs (1999) offers a sequence of widening the moral subject in the following list:

- only myself (egoism)
- myself, my family, and friends (small group egoism)
- all people of my class (classism)
- all citizens of my country (nationalism)
- all people of may race (racism)
- all people of my sex (sexism)
- all living human beings (universalism of the present)
- all living human beings and those of the past (universalism including the past)
- all living human beings and those of the future (universalism including the future)
- all sentient beings (pathocentrism or sentietism)

The notion of extending morals to added objects is vividly depicted by the pioneer of ecological ethics, Aldo Leopold, famous for his classic "The Land Ethics", which appeared in *A Sand County Almanac* in 1949. In the story, upon returning home, Odysseus punishes his disobedient slave girls by sentencing them to hanging. Three thousand years after, the slave girls are objectivised and moral behaviour was not extended to them, as they were considered as property or object, not as a moral subject. Leopold draws an analogy with the current situation across a time distance and says: "Land, like Odysseus' slave girls, is still property. The land relation is still strictly economic, entailing privileges but no obligations" (Leopold, 1949:237). Thereby the author introduces a concept of responsibility into the human-nature relationship and sets the foundation for ecological ethics.

Ecological ethics is a part of applied ethics defined as a specific area of theological or philosophical research on establishing ethical norms as criteria for moral behaviour regarding the treatment of world life and natural ecosystems. It offers norms, defines human responsibility and shows how that responsibility is justified (Cifrić, 2009). Ecological ethics will start functioning when all acts

unsuitable for the environment are sanctioned and forbidden, not only legally but morally as well (Kirn, 2004). This attitude anticipates Leopold's idea and his "land ethics" on the superiority of social goals to personal goals of an individual (Marušić, 1999). Leopold (1949) evokes Darwin's idea of unity with the natural world and proclaims a "living world" ("susvijet"/"Mitwelt") as described in Cifrić (2002).

In his book, *Respect for Nature*, Paul W. Taylor (1986) analyses the concepts of a moral subject and a moral agent (object), which differ in their moral activity and according to which the moral subject is active in choice, unlike the moral agent, who can be governed in a right or a wrong way.

In his work he presents three key elements:

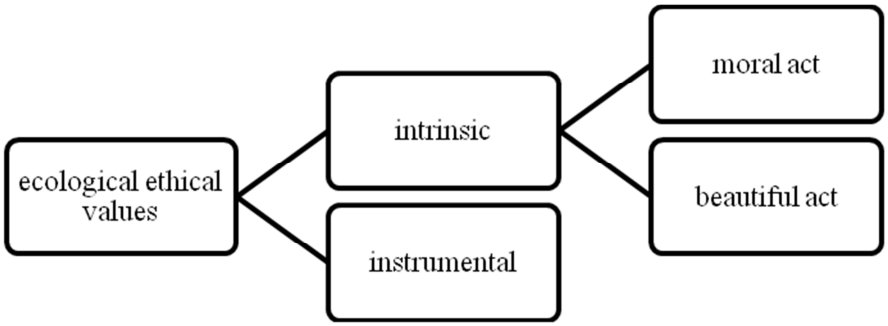
- Bio centric (life-centred) environmental ethics: neither anthropocentric, nor sentience-centred Individualistic (not holistic-as is Leopold's land ethic): Individual organisms (not species or ecosystems or natural processes) have moral worth. Taylor thinks individualism follows from biocentrism, as only individuals are alive.
- Egalitarian: All organisms (including human organisms) have equal inherent worth

In four basic principles Taylor (1986:46) presents the bio centric heterarchical ethics according to which there are no "inherently superior or inferior" living beings:

1. Humans are no privileged members of the earth's community of life
2. The natural world is an interdependent system
3. All organisms (and only organisms) are teleological centres of life (think of plants seeking light) that have goods of their own that we can morally consider for their own sake. Organisms have a "point of view" we can adopt by judging events as good or bad depending on whether the organisms are benefitted or harmed.
4. The belief in human superiority is an unjustified bias; we should be species impartial and egalitarian. (Taylor, 1986:99-100 according to Marušič, 2002:31)

Empirical sociological research studies established that there is a socio-ecological orientation which has been discussed by different authors inside the anthropo-eco polarity or, in the case of focusing on life only, inside the anthropo-bio polarity. The extremes are found in the concepts of moral chauvinism and the concept of deep ecology (holism) construct invented by Naess, (Cifrić, 2002). Cifrić (2009) analyses the degrees of ecological ethics, not in the sense of higher or lower levels, but in the sense of enclosing moral objects (Figure 6). Intrinsic and instrumental values are inseparable from discussing the source and the perimeter of the moral scope. Krebs (1999) explains the difference with the notion of "answers", and differentiates between "ethical answers" for intrinsic values and "technical answers" for instrumental values. Within the notion of intrinsic values he introduces the division into "eudaemonic" and "moral", applying them to the concept of life and differentiating

between "good" and "right" life. The same division within intrinsic values is cited by Neass (1995) referred to as a "moral act" and a "beautiful act" by recalling Kant's derivatives (see Figure 8). Immanuel Kant clarified moral behaviour within two concepts: acting in harmony with the universal or acting by duty and acting in line with duty. Moral action related to values is found in the quote: "Thus neither is morality, to be true, the learning of how we should make ourselves happy, but how we should become worthy of happiness" (Kant,1990).



Slika 8: Hierarhija ekoloških etičnih vrednot po Neassu (1995).
Figure 8: Hierarchy of ecological ethical values according to Neass (1995).

Reviewing the literature (see Table 5) we can see that the authors have dealt with analyzing the degrees of ecological ethics through two basic dimensions: the scope of the moral (intrinsic values) and the time scope (past-present-future).

Preglednica 5: Pregled avtorjev etičnih razsežnosti okoljske orientacije; Cifrić (2009:str 74-84), dopolnitev *.
Table 5: The author's classification of ethical dimensions of environmental orientation; Cifrić (2009:p74-84), supplemented *.

AUTHORS	DEGREES OF ECOLOGICAL ETHICS/DISTRIBUTION
Armstrong and Botzler	Aesthetic Evaluation of Nature, Economy, Politics, Law Anthropocentrism Individualism Ecocentrism Ecofemminism Jewish-Christian Perspective Multicultural Perspectives
Frankena, W.	Ethical Egoism Personalism-Altruism Holism Ecological Fraction Physiocentric Fraction Theism Ethics Linking The Second and the Sixth Degree Natural Right
Hoffe, O.	Personal Or Economic Legitimate Demand for a Just and Solidary Distribution of Healthy Environment to all People Justice for Future Generations Departing Anthropocentrism and the Right of Nature

continues

continues

Teutsch G.	Egoistic Anthropocentric Patocentric (All Beings Capable of Suffering) Biocentric Holistic
Meyer-Abich K.M.	Egocentric – Me Homo-Economicus – Me and Family, Friends Chauvinist – Me, Nation and Immediate Past Mit-Mensch – Me, Nation, Present Generation Anthropocentrics – Me, People, Past and Present All Consciously Sensory Beings Holism – Everything
Irrgang B.	(a) Anthropocentrics: Egocentrics A Classic Anthropocentric Responsibility for Future Generations (b) Non-Anthropocentric: Patocentric Biocentric Physiocentric Concepts Theistic Ethics Natural Right
Schlitt,	Anthropocentric Patocentric Biocentric Physiocentric
Arsene G.G.*	Anthropocentric Biocentric Ecocentric
Cifrić, I.*	Anthropocentric Ecocentric Technocentric
Schultz, S.H.*	Egoistic Socioaltruistic Biospheric
Hernandez et al.*	Anthropocentrism Progress Naturalism
Thompson and Barton*	Anthropocentric Ecocentrism
Kaltenborn and Bjerke	Environmental Apathy
Amerigo et. al*	(a) Anthropocentrism Ecocentrism (b) Anthropocentrism Biospherism Egobiocentrism
Milfont and Duckitt*	Self-Transcendence Self-Enhancement Openness to Change

continues

continues

	Conservatism
	Biospheric
	Altruistic
Dunlap and van Liere*	Ecocentrism
	Anthropocentrism
Van der Windt et al. *	Strong Anthropocentric
	Weak Anthropocentric
	Ecocentric

The critique of extreme holistic and biocentric concepts calls for the subject of morals and the source of value, as Warren (1997) says, at the end: "All ethics is anthropocentric to a certain degree. We should not forget that humans are the sole moral agent in every case. When considering non-human entities with their own inherent value, we should not forget that it is humankind itself that *attributes value* to nature" (cited in Arsene, 2007:24).

2.5 Conclusion of the chapter on ethics and values

Values have been a central concept in the social sciences since their inception. They have played an important role not only in sociology, but in psychology, anthropology, and related disciplines as well. They are used to characterise societies and individuals, to trace change over time, and to explain the motivational bases of attitudes and behaviour. The interdisciplinarity of spatial research and spatial planning research inevitably includes different topics and sociological discourse, including attitude sampling with an aim of conflict solution, which has become part of the process in spatial planning. There are obvious changes in the relationship between human and nature, and consequently, the attitude to nature over the centuries, which are reflected precisely in the changes of attitudes and behaviour. On a global level, the changes in attitudes and behaviour have been monitored by using the concept of culture and by using the comparison with the concept of cross-culture.

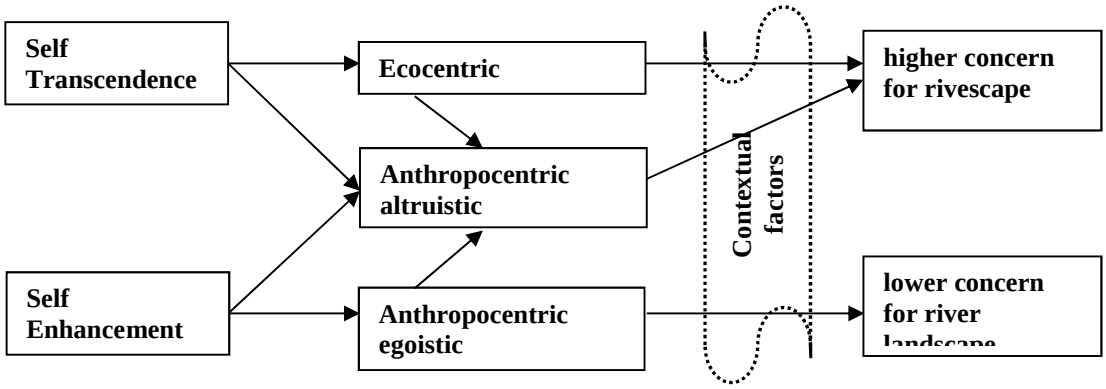
Empirical research studies on the population's attitudes to bioethical questions have an aim not only to research attitudes themselves, but to connect them to the origins of those attitudes and the consequences of those attitudes in the form of behaviour. There is a simultaneously developed theoretical platform used for the analysis of the structures of the society, the moral scope in the observed society, the changes in the value structure etc. Such research is necessary in order to establish the major social stakeholders of an ideology and the system of values which legitimates the behaviour of individuals and of groups. For the purpose of this research, the concept of socio-ecological values (Schultz and Zelezny, 1999) and the concept of national cultures (Hofstede, 1984; Schwartz, 2001) were applied for comparing the three nations whose respondents were connected to the Mura and Drava area on a local and regional level.

Environmental orientation is related to key values (human, people, nature) according to which "the sense" is attributed to life activities. The established specific dimension of orientation is called orientational identity (anthropocentrism,-egoism, anthropocentrism-altruism, biocentrism) and is not subject to changes as an identification profile of an individual or of a group (Cifrić, 2008). Following Stern and Dietz (1994), who used Schwartz's (1992, 1994) value items to assess a person's value orientation, Schultz (2000) identified three clusters of environmental attitudes which represent egoistic, altruistic, and biospheric concerns. The participants in this study were college students, so we can talk about the values of the young people. The structure of value dependencies, motivational values and environmental values is based on (1) Schwartz's (1994) definition of an individual higher order value, (2) prior results on correlation of values and environmental attitudes (Schultz, 2000) and regression analyses using values to predict environmental attitudes (Schultz and Zelezny, 2000). The structure of the sequence for higher order values, motivational values and environmental attitudes is given in Table 6: Higher order values, motivational values and items according to Schwartz (1994: p 294, 295).

Preglednica 6: Vrednosti višjega reda, motivacijske vrednosti in navedki po Schwartzu (1994: str 294, 295).
Table 6: Higher order values, motivational values and items according to Schwartz (1994: p 294, 295).

Higher order values	**Values**	**Items**
Self-transcedence	Benevolence	12. **It's very important to him to help the people around him. He wants to care for other people.** 18. It is important to him to be loyal to his friends. He wants to devote himself to people close to him. 27. It is important to him to respond to the needs of others. He tries to support those he knows. 33. Forgiving people who might have wronged him is important to him. He tries to see what is good in them and not to hold a grudge.
Self-transcedence	Universalism	3. He thinks it is important that every person in the world be treated equally. He wants justice for everybody, even for people he doesn't know. 8. It is important to him to listen to people who are different from him. Even when he disagrees with them, he still wants to understand them. 19. **He strongly believes that people should care for nature. Looking after the environment is important to him.** 23.He believes all the worlds' people should live in harmony. Promoting peace among all groups in the world is important to him. 29. He wants everyone to be treated justly, even people he doesn't know. It is important to him to protect the weak in the society. 40. **It is important to him to adapt to nature and to fit into it. He believes that people should not change nature.**
Self-enhancement	Power	2. It is important to him to be rich. He wants to have a lot of money and expensive things. 17. It is important to him to be in charge and tell others what to do. He wants people to do what he says. 39. **He always wants to be the one who makes the decisions. He likes to be the leader.**

Nordlund (2002) hypothesized about a hierarchical model in which ecocentrism has a positive influence on the problem of awareness, and anthropocentrism has a negative one. The results confirmed the assumed hypothesis so that the conclusion was reached that higher order values influence environmental behaviour indirectly from those two poles. In the conclusion the author confirms the heterogeneous nature of anthropocentrism in the directions of egoism and altruism. The research hypothesized about the hierarchy of higher order values which were not researched by an instrument but was assumed on the basis of a theoretical frame and the results from previous research (Schultz and Zelezny, 1999; Schultz, 2001; Nordlund, 2002). In this case the environmental orientations were investigated in order for them to be interpreted in relation to evaluating the visual transformation of the river landscape. According to Kaltenborn and Bjerke (2002), ecocentrism correlates positively with evaluating the wild land and cultural landscape, whereas anthropocentrism correlates with the farm environment. A hierarchical model was created, according to which environmental orientations originating in higher order values would influence value attitudes toward the river landscape.



Slika 9: Diagrami modelov, ki pogosto najbolj vplivajo na okolje in iz splošnih vrednostnih orientacij na skrb za obrečno krajino (po Nordlund, 2002).
Figure 9: Path diagram of the model of the influence from general and environmental value orientations, on concern for river landscape (according to Nordlund, 2002).

Survey items, which had an objective of differentiating respondents in environmental orientation clusters were construed according to the overview of dimensions, content and items by Schwartz (1984), Milfont and Duckit (2010) and Cifrić (2008). The dimensions and environmental orientations are displayed in Table 7.

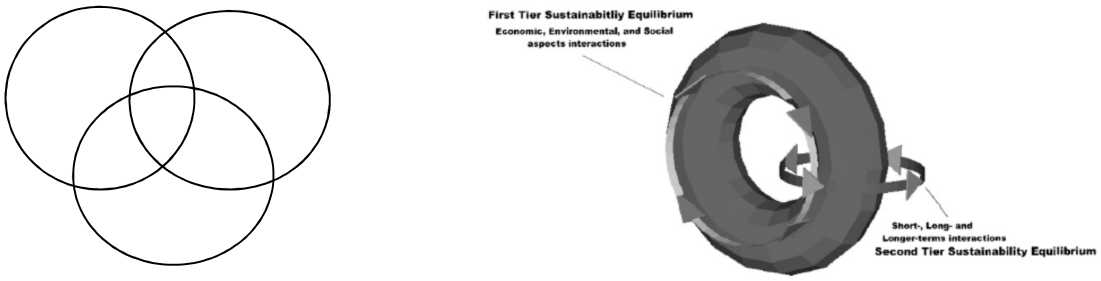
A portion of items (*) is taken from the survey conducted within the project "Modernisation and Identity in Croatian Society. Social and Cultural Integration and Development" (130-1301180-0915), and a portion was investigated on the sample of 103 students of the Josip Juraj Strossmayer University in Osijek (Faculty of Civil Engineering and Law Faculty) during May 2010. According to the results provided, the respondents were recognised as belonging to a particular orientation (Stober, 2011).

Scale label	Survey Items	Schwartz Values	Milfont-Duckitt (2010) Construct definition	Cifrić (2008) Frame attitudes
Anthropocentric egoistic Self-oriented	Human is an absolute master of nature in which he lives and he can treat it whichever way he likes* Developing technological solutions brings new advantages and pleasures to humankind*	**Power**	**Human dominance over Nature Human utilization of Nature** Belief that nature exists primarily for human use, versus belief that humans and nature have the same rights. Belief that economic growth and development should have priority rather than environmental protection, versus belief that environmental protection should have priority rather than economic growth and development.	**Relation to myself** I only believe in myself Technology is a means to my power
Ecocentric Biospheric-oriented	If some landscape is preserved and original, the culture of its inhabitants is more advanced Rivers connect regions they flow through in a physical and cultural way Preserving nature is preferred to all other tasks of a society*	**Universalism**	**Ecocentric concern** A nostalgic concern and sense of emotional loss over environmental damage and loss, versus absence of any concern or regret over environmental damage.	**Relation to nature** I am an integral and equally important part of the ecosystem Human's world is a part of nature Nature is something valuable in itself
Anthropocentric altruistic Human-oriented	River should serve human for leisure, recreation and enjoyment in a nice view Human today is completely controlled by the most contemporary technology and thus prevents possible accidents* Cities through which a river flows are more beautiful than cities which do not have a river	**Benevolence**	**Conservation motivated by anthropocentric concern** Support for conservation policies and protection of the environment motivated by anthropocentric concern for human welfare and gratification, versus support for such policies motivated by concern for nature and the environment as having values in themselves.	**Relation to world** The world is as it is shaped by human Technology is inseparable from human

Preglednica 7: Odnos vrednosti višjega reda po Schwartz (1984), dimenzij Milfonta in Duckitta (2010), dimenzij Cifrića (2008) in izjave v vprašalniku
Table 7: The relationship of higher order values according to Schwartz (1984), Milfont and Duckitt's (2010) dimensions, Cifrić's (2008) dimensions and a statement in the questionnaire

2.6 Cultural sustainability

Except for the Brutland definition from 1987, "Sustainable development" also means satisfying the needs of the present generation without compromising the capacity of future generations to satisfy their needs " (WCED, 1987: 14). In the extremely extensive literature on sustainability, what seems to be common to numerous papers, reviews and analyses is the critique of its fluidity, ambiguity, deficiency, polysemy, multidisciplinarity, immeasurability, and, on the other hand, simultaneous positive critique of the theoretical platform and the astonishing speed and strength with which it permeated global thought. Sustainability is most frequently defined by three pillars: environmental protection, economic growth, and social equality, which are very frequently joined by the concept of "development" into the structure "sustainable development", which has suffered some critique, too, mostly due to its semantics (Blassingame, 1998; Redclift, 2005). Jacobs (1995) quotes 386 definitions on sustainable development, mostly oriented towards separate sectors. The development and expansion of the term "sustainability" can also be seen in the development of the graphic expression, from Venn's diagram (in which all three topics overlap) to a three-dimensional image in which the dimensions of sectors and the time dimensions are joined (see Figure 10) (Lozano, 2008).



Slika 10: Vennov diagram in trodimenzionalni prikaz vzdržnog razvoja (Lozano, 2008).
Figure 10: Venn's diagram and the three-dimensional image of sustainable development (Lozano, 2008)

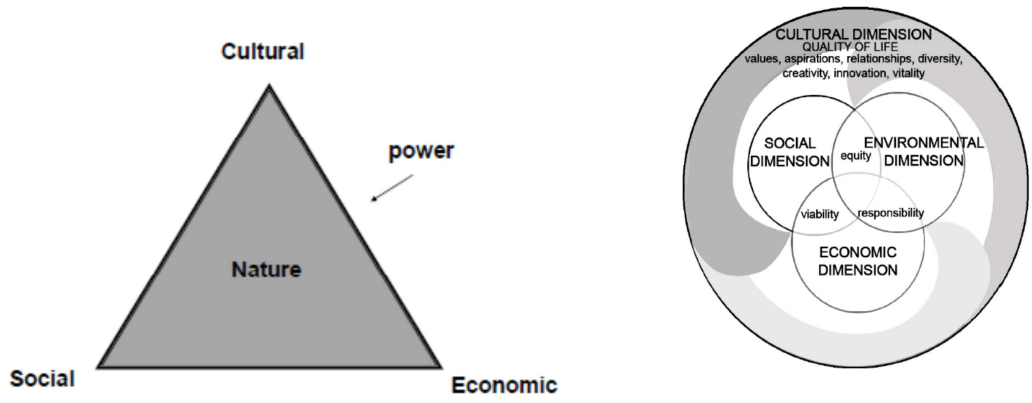
Overviews of historical development of the concept of sustainability started to appear from the environment crisis in 1960/70's onwards, mentioning *Limits to Growth* (1972) as a theoretical and notional precursor (Ekins, 1993; Stern et al., 1998;Kos, 2004). After the 1987 definition, the expression is mentioned in a series of institutional documents on a global level (UN Documents http://www.un-documents.net/k-001303.htm; accessed on 28-09-2012). An "epidemics" of national documents was prompted by Agenda 21, which says: "National Strategy for Sustainable Development should build upon and harmonise the various sectorial economic, social, and environmental policies and plans that are operating in the country" (Chapter 8.7)**,** and which serve most frequently as umbrella documents for other sectorial strategies.

The World Commission on Culture and Development in its 1995 Report introduces the concept of culture in the sustainability paradigm and defines it as "the whole complex of distinctive spiritual,

material, intellectual and emotional features that characterise a society or social group. It includes not only the arts and letters, but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs" (UNESCO, 1995:22). Followed by the 2004 document, Agenda 21 for Culture, in which culture is advocated as the fourth pillar of sustainability.

The Australian researcher Jon Hawkes has formulated the need to structure a new "pillar" for sustainability. His document "The Fourth Pillar of Sustainability – Culture's Essential Role in Public Planning" from 2001 is recognised as a masterpiece for local policy making in many European cities (Pascual). The author claims that "a sustainable society depends upon a sustainable culture. If a society's culture disintegrates, so will everything else ... vitality is the single most important characteristic of a sustainable culture. Cultural action is required in order to lay the groundwork for a sustainable future ….the initial strategies that need to be implemented to successfully achieve sustainability must be cultural ones." (Hawkes, 2001:12).

Culture merges with the sustainability paradigm as the fourth pillar for the idea of sustainability by developing the following topics, as suggested by Soini and Birkeland (2009):
– heritage,
– tourism,
– availability of technology
– arts
– developing countries and indigenous cultures,
– natural resource management,
– urban design, housing and architecture and planning
– values and value change
Literature offers some new graphic expressions for sustainability (Picture 11) .



Slika 11: Štirje stebri model vzdržneg razvoja (Soini and Birkenland, 2009; Runnalls, 2007:10)
Figure 11: Four pillars model of sustainability (Soini and Birkenland, 2009; Runnalls, 2007:10)

Thorsby (2003) proposes six principles by which the sustainable management of cultural capital can be judged: material and non-material well-being; intergenerational equity; intragenerational equity; maintenance of diversity, precautionary principle and maintenance of cultural systems and recognition of interdependence.

2.7 Visual, ecological and ecologically-visual value of landscape

2.7.1 Evaluating landscape in the objective and subjective paradigm

Twenty five years ago, in the introduction of *Scenic Assessment: An Overview*, Arthur et. al. (1977) claimed that "there is no longer a need for researchers and land managers to treat Refrescenic beauty assessment as virgin territory". Even half a century ago the field of researching visual landscapes started developing different models looking for objective measures of visual quality. Review papers by Arthur et al. (1977), Zube et al. (1982), Daniel and Vining (1983) and Lothian (1999) detected two models (subjectivist and objectivist) and a total of eight paradigms of researching the visual domain of landscape (expert, psychophysical, cognitive, experiential, ecological, formal aesthetic, psychological, phenomenological)

(1)Expert models include:

(a) Expert approach: evaluation of the visual landscape by experts and trained observers (e.g. landscape architects, geographers, spatial planners), characterised by the use of systematic descriptive inventories, visual management systems, etc.

(b) National institutional landscape assessment

(c) Ecological

(d) Formal Aesthetic

(2)Public preference models:

(e) Psychophysical-approach: testing general public or selected populations' evaluations of landscape aesthetics by environmental psychologists, landscape architects, characterised by the use of photo questionnaires. In these studies the behavioural approach is the dominant methodology.

(f) Psychological-approach: search for human meaning associated with landscape or landscape properties by environmental psychologists, characterised by mapping landscape experience.

(g) Phenomenological-approach: research on subjective experience of the landscape (phenomenologists, psychologists, humanistic geographers), characterised by the interpretation of paintings, poetry, etc. These studies show a humanistic approach.

In 1982 Zube et al. studied the published papers by reviewing twenty journals (USA, The Netherlands, England) and in the paper *Landscape Perception: Research, Application and Theory* presented the conclusions related to the classification of the research. Paper selection was based on the choice of those papers dealing with the following key words: scenic beauty, landscape quality, landscape character, aesthetic, visual quality and landscape values. A choice of sixty papers was made, which they distributed according to the following four paradigms: expert, psychophysical, cognitive and experiential. The authors offered the following clarifications for the paradigms: expert paradigm includes a qualitative evaluation of landscape on the basis of a skilled and educated observer assessing the environment in two directions – ecological and aesthetic; cognitive paradigm establishes a relationship between value attitudes and cognitive variables originating in the information from the environment; psychophysical paradigm searches for a link between physical phenomena in the environment and values related to environment and aesthetics; experiential paradigm requires a deeper understanding of individual experience in interaction with nature. There are two basic groups whose attitudes are investigated: experts and non-experts. The attitudes of the experts are investigated in the domain of visual quality and ecology, whereas that of the non-experts is linked in that time stretch with experimental psychology and research of individual experience and reaction to landscape. The research concentrates on describing "what" in landscape perception, and not on "how" and "why". Analysing the overlap of four paradigms the conclusion is reached that there are possibilities of a common framework for integrative landscape research.

Daniel and Vining (1983, cited in Lothian, 1999:180) coined the term "landscape-assessment models" and defined five such models - ecological, formal aesthetic, psychophysical, psychological, and phenomenological. They described each and evaluated them on the basis of their reliability, sensitivity, validity, and utility.

The Ecological Model: Experts assess the environmental qualities of the landscape including its natural amenities. Naturalism is an important dimension. Leopold's river landscape assessment (1969) is an example.

The Formal Aesthetic Model: Analyses landscapes on the basis of their formal qualities - forms, lines, colours, textures and their interrelationships, plus elements such as variety, harmony, unity and contrast. An example is the US Forest Service's Visual Management System based on a system developed by R.B. Litton.

The Psychophysical Model: Psychophysical methods aim at defining the functional relationships between physical stimuli and psychological responses. Mathematical equations are derived to describe

these relationships. The Scenic Beauty Estimation method developed by Daniel and Boster (1976) is a psychophysical method.

The Psychological Model: This approach examines the feelings and perceptions derived from landscapes - the emphasis is on the cognitive and affective reactions evoked by various landscapes. High quality landscapes may result in positive feelings of happiness, security and relaxation, while low quality landscapes may be associated with negative feelings such as a sense of stress or gloom. Studies by Rachel and Stephen Kaplan are examples of how the approach has been applied.

The Phenomenological Model: This model emphasises the individual's subjective feelings, expectations, and interpretations with landscape perception regarded as an encounter between the individual and the environment. Works by Lowenthal and Lynch are examples of this approach (Lothian[3]).

In the overview of approaches to researching landscape studies Lothian[3] mentions two additional types defined by Brush (1976, cited in Ulrich, 1986) as preferential judgment and comparative appraisal. The former approach is judged to be an insufficiently clear concept of evaluation for establishing the standards of environmental quality. The latter one is designated by a value system because assessment is done in the context of some idea. This approach is judged by the authors as favourable due to the conclusions which are to be used in public decision-making.

On his web domain, www.scenicsolutions.com.au**,** Lothian gives an overview of Typologies of landscape studies, from Penning-Rowsell (1973) to Dearden and Sadler (1989), and in 1999 publishes his overview of landscape researches in *Landscape and Urban Planning* in the context of a philosophical analysis of conceiving beauty. In the overview of the typologies he determined two basic approaches: the objectivist and the subjectivist (Table 8) and offered at the end of the article a suggestion on the integrative approach to outlining a landscape study. According to Lothian (1999), there is a subjectivist theory in the core of the objectivist paradigm and, vice versa, in the subjectivist paradigm we strive to measure some experience in an objective way.

Preglednica 8: Značilnosti objektivističnih in subjektivističnih paradigm (Lothian, 1999:str 178).
Table 8: Characteristics of objectivist and subjectivist paradigm (Lothian, 1999: p. 178).

OBJECTIVIST OR PHYSICAL PARADIGM	landscape quality is an intrinsic physical attribute assessed by applying criteria to landscape subjectivity presented as objectivity
SUBJECTIVIST OR PSYCHOLOGICAL PARADIGM	landscape quality derives from the eyes of beholder assessed using psychophysical methods objective evaluation of subjectivity

[3] www.scenicsolutions.com.au/Typologies.html (pridobljeno 28-10-2010)

The landscape has its objective nature which is of material structure and measurable, and at the same time it has its subjective nature within the value structure, which is both qualitative and aesthetic. The landscape as a sum of physical characteristics which are classified according to numerical scales is the basis of the objectivist paradigm. It is assumed that the category of quality for this paradigm has been derived according to clear, objective criteria for some decided indicators.

In keeping with this is an objective assessment, too, when the psychophysical methods are used, which, on the other hand, use statistical instruments and mathematical models to classify the visual quality of the landscape. In that way we have quantificational methods to define the landscape that we find more beautiful than the others. Lothian (1999) based his analysis on a basic dichotomy between the source of value and a moral subject: whether the value of landscape is inherent or whether it is in the "eye of the beholder". By analysing both theoretical and review articles the author presents the basic differences in the subjectivist and the objectivist paradigm in Table 9.

Preglednica 9: Fizične in prednostne paradigme (Lothian, www.scenicsolutions.com.au/Typologies.html (pridobljeno 28. 10. 2010)
Table 9: Physical and Preference Paradigms (Lothian, www.scenicsolutions.com.au/Typologies.html (accessed 28-10-2010)

Characteristic	Physical Paradigm	Preference Paradigm
Basis	Beauty an intrinsic quality of the landscape	Beauty in eye of the beholder - human preferences
Aims	Seeks to understand landscape so that it can be better protected and managed	Seeks to understand human preferences regarding landscapes to assist in their management
Causes	Silent on underlying reasons	Seeks to explain why
Methodology	Empirical; applies approach	Experimental; testing hypothesis
Objectivity of approach	Subjectivity presented as objective	Objective evaluation of subjectivity
Standardisation of tools	Lack of standardisation - uses different and unique methods and techniques. Generally field-based.	Standardised research instruments & statistical tools, although used in a variety of ways. Often based on surrogates [e.g. photographs]
Site specificity	Specific to site or area - generally cannot transfer to other localities	Not site or area dependent - in theory can transfer to other localities
Human specificity	Does not differentiate between different human observers, assumes uniformity	Examines effect on preferences of human differences - age, gender, socio-economic, education
Value of findings	Often of questionable worth and of short-lived value	Results in new knowledge which is of lasting value

Arthur et al. (1977) find that the disadvantage of the quantitative concept is in understatement and require a subjectivist extension and a desired research link – **why** do we find some landscapes more beautiful than the others. These researches comprise cognition, perception and preference. Swanwick (2009) mentions methodological dualisms popular even today, such as quantitative and qualitative, objective and subjective, expert and public and components or whole landscapes. He divides researches into three paradigms: *formal aesthetic studies*, *behavioural studies* and *humanistic studies*,

where the first paradigm belongs to the objectivist, the third to the subjectivist paradigm whereas behavioural studies have elements of both. Contemporary trends in landscape research have been dealing with the integration of different disciplines and discourses (Nassauer 1995; Naveh 1995; Tress et al. 2006), a holistic approach (Palang 2000; Antrop 2000; Antrop and van Eetvelde 2000) and in the direction of spatial planning (Pogačnik 1979, 1990; Burmil et al.1999; Butula 2003, 2008; Golobič and Marušič, 2007, Penker 2009). Ryan (2012) advocates another direction of research on the manner of noting the scientific and expert findings on landscape in practice by using GIS tools. The methods of landscape research are inevitably different due to the specificity of each landscape (river, sea, mountain, wild, agricultural etc.) as well as due to the specificity of the landscape observer (age, culture, education, familiarity etc.). A consensus must be reached in ethical principles of landscape research of it being a disposable, endangered resource as well as a presenter of human culture. In the process we should observe the physical characteristics of a landscape through the unit of ecosystem and through landscape change, and the human component through the dependency of a cognitive image and the real image of a landscape in the scope of culture.

2.7.2 Aesthetics and Ecology or Aesthetics-Ecology

There has been an attempt in scientific and expert works in the field of landscape research to bridge the chasm between the subjectivist and the objectivist paradigm in researching the relation between the ecological and the visual quality of landscape. Aesthetic experiences may lead people to change the landscape in ways that may or may not be consistent with its ecological function. There have been some opposing opinions on the relation between aesthetic and ecological parameters.

In her paper entitled *Culture and Changing Landscape Structures*, Nassauer (1995) mentions the following hypotheses which establish a direct link between ecology and aesthetics The following broad principles are proposed:

1. Human landscape perception, cognition, and values directly affect the landscape and are affected by the landscape.
2. Cultural conventions powerfully influence the landscape pattern in both inhabited and apparently natural landscapes.
3. Cultural concepts of nature are different from scientific concepts of ecological function.
4. The appearance of landscapes communicates cultural values.

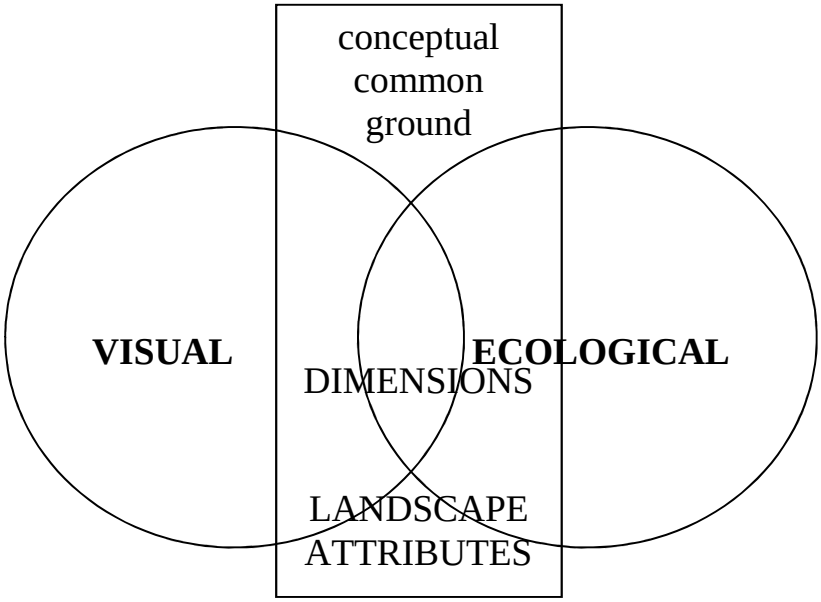
Thereby she placed the relationship of aesthetics and ecology in the context of culture. Analyzing the third hypothesis on the difference between the cultural and ecological concept of landscape the author says: “What looks like beautiful nature may be a polluted former landfill, and what looks like a neglected abandoned lot may be a rich ecosystem.”(Nassauer, 1995:234). It follows that the cultural

concept of landscape is actually identified with landscape "as it should be" in the context of the visual. That idea is close to the "image of nature" by Buijs (2006, 2009). The following is said there regarding the cultural concept of landscape: "The cultural perception of nature is not wrong, it simply is."(Nassauer, 1995:234). Thus it is perceived as necessary in planning to regard the concept of cultural expectations. The author finishes her paper with an integral recommendation on subjects and objects of planning in order to satisfy both the cultural and ecological criteria in landscape planning: "Cultural knowledge, scientific knowledge and design innovation are all needed to accomplish cultural principles for landscape ecology." In 2001 Nassauer published an edition entitled *Placing Nature: Aligning Aesthetic and Ecology*. In the text there is a thesis that a "more beautiful" landscape has greater possibilities of remaining healthy and preserved than the one which people simply do not like. Moreover, she mentions the importance of a scale we use when observing some space and detects a conflict between the small and big landscape scale in an ecosystem and its processes. She sees human scale as a compromise, where there is a yard, a national park and river basin. A real integration of aesthetics and ecology is in the adjustment of policies and strategies, landscapes and technologies which should be designed to align aesthetic experiences that people already value with ecological health they do not yet know how to recognise while simultaneously new cultural expectations for ecological health is built.

Sheppard (2001) suggests an integration of aesthetic and ecological elements by analyzing the new theoretical background by the construct *visible stewardship* as a supplement to *scenic theory* and *aesthetic ecology theory* by Gobster (1999) and Nassauer (1997). She expands the theory with an emotion dimension, introduces the notion of spiritual value and develops it on the example of forest area planning creating the context for integration in the idea of sustainability. Sheppard criticises and reevaluates the aesthetics-ecology hierarchy in which there is ecology at a higher range of values by posing the following questions: "What if the ecologists are proven wrong in the long term? Is it conceivable that the conventional scenic aesthetic may turn out to be just as ecologically beneficial (at least in a forested landscape setting), after so much energy has been expended on converting people's opinions? Secondly, the theory fails to take into account people's instinctive, genetically-programmed reactions."(Sheppard, 2001:158). Indeed, how comprehensively do ecologists see the mechanism of nature and the ability of the mechanism to govern its equilibrium? Are the scopes observed by ecologists indeed units of the ecosystem? By reassessing the subjective principles of the objectivist paradigm we reassess its very foundation. On the basis of the discussion above, Sheppard poses a new theory: "What we can call a theory of visible stewardship adds a key missing ingredient to the ecological aesthetic for working (human-modified) landscapes: that, other things being equal, we find aesthetic those things that clearly show people's care for and attachment to a particular landscape; in other words, that we like man-modified landscapes clearly demonstrate respect for nature in a certain place and context. This theory emphasises not whether the landscape looks natural, or orderly, or

culturally appropriate, or controlled, so much as whether it looks as though real individuals care for the land or place: people who are linked to it, rooted in it, invested in it, working in it in a respectful, symbiotic, and continuously vigilant manner, perhaps even from generation to generation."(Sheppard, 2001:159). The idea of "visible stewardship" is followed by Nassauer (1997) with the construct *cues to care* and *vivid care* and she places the value *attachment to the place* (environment) in a heterarchy with aesthetic and ecological values.

In their empirical research Fry et al. (2009) looked for a common ground of the visual and ecological through the concepts of Stewardship, Coherence, Disturbance, Historicity, Visual Scale, Imageability, Complexity, Naturalness and Ephemera, the concepts from the psychophysical paradigm of a great number of authors (see Fry et al., 2009). A common ground was looked for in a hierarchical frame for Dimensions, Landscape attributes and Indicators (Figure 12).



Slika 12: Shema konceptualnega skupnega vizualnega in ekološkega področja (Fry et al. 2009: str. 934).
Figure 12: The schema of a conceptual common ground between the visual and ecological (Fry et al. 2009: p.934).

The research resulted in fifteen concepts of the conceptual common ground, the visual and ecological aspect. Table 10 provides an overview of the concepts.

Preglednica 10: Povzetek vizualne in ekološke vsebine konceptov, ki se nanašajo na krajinsko strukturo (Fry et al. 2009:str. 942)
Table 10: Summary of the visual and ecological content of concepts related to landscape structure. (Fry et al. 2009:p. 942)

Visual aspect	Conceptual common ground	Ecological aspect
Stewardship	Active and careful management	Ecosystem management
Order and care	Upkeep	Habitat management
Coherence	Land cover suitability	Coherence
	Intactness of vegetation	Connectedness
Unity/harmony		
	Fragmentation	Disturbance
Holistic	Lack of coherence	Lack of ecological integrity
	Openness	Scale
Balance and proportion		Distance
		Isolation
Disturbance	Complexity of shapes	Complexity
	Pattern	Habitat heterogeneity
Lack of contextual fit	Diversity of land cover	
	Intactness	Naturalness
	Wilderness	Ecological naturalness
Scale	Natural	
	Continuity	Continuity
Visibility		Ecological continuity
	Seasonality, temporal and cyclical change	Ephemera
		Key ecological structures
Complexity		Source patches
Diversity of elements		Key patches
		Key spatial elements
Naturalness		
Perceived naturalness		
Historicity		
Historical continuity		
Historical richness		
Ephemera		
Imageability		
Sense of place		
Genius loci		
Uniqueness/distinctiveness		

It is visible from this shared platform that the authors extricated a series of concepts which support Sheppard's (2001) and Nassauer's (2001) theoretical foundation on common aesthetic and ecology values of active and careful management of the environment which overlaps in the concept of naturalness with the concept of the wild and nature and in the concept of scale with the concept of openness.

In the 2007 paper *The Shared Landscape: what does aesthetics have to do with ecology?* A group of authors (Gobster, Nassauer, Daniel, Fry) suggests the following theoretical platform:

- landscape aesthetics provide critical linkage between humans and ecological process,

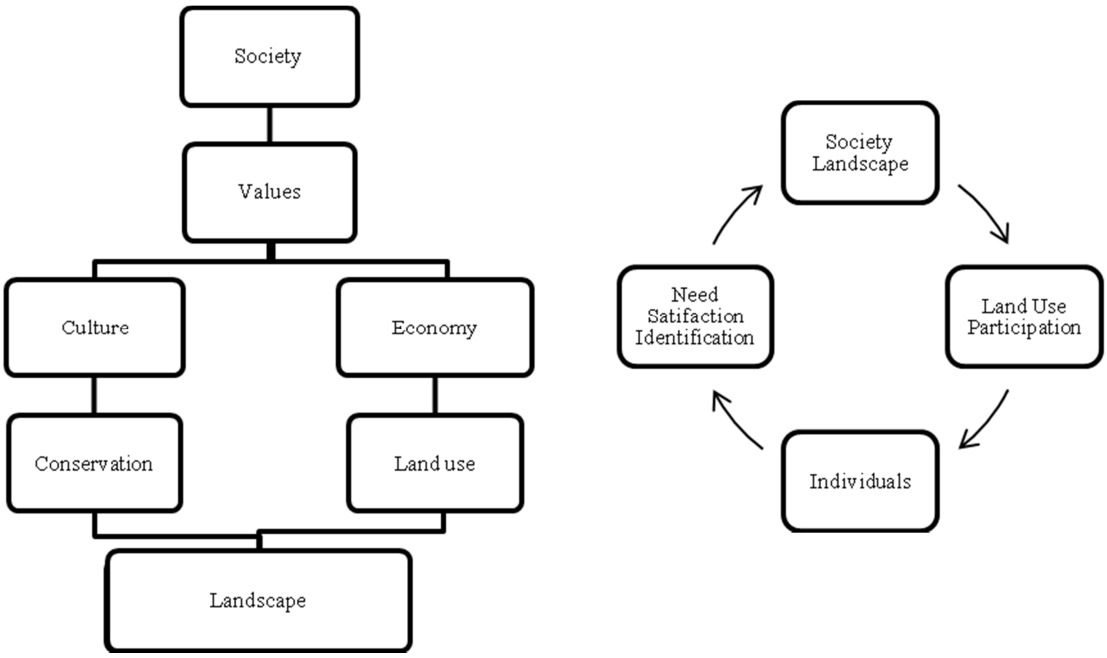
- the most important emotional pleasure has a fundamental influence on our response to the stimuli
- aesthetic experience can drive landscape change
- understanding how people perceive and experience the beauty of all landscapes is central to achieving public support, especially when aesthetic preferences and ecological goals are not aligned
- people tend to interpret their aesthetic experience of landscape as providing information about its ecological quality
- landscape planning, design and managment are key to the cultural sustainability of vital ecosystem functions
- aesthetic experiences are fundamentally triggered by affective (emotion-based) processes

The authors formed the model which puts the landscape pattern in interaction with situational context and has as a principle goal the ecological-aesthetic construct to "align ecological goals with aesthetic experiences to achieve culturally and ecologically sustainable landscapes" (Gobster et al., 2007:970). The authors assume that there are two possible directions – intervention: by planning (shaping) and education, i.e. knowledge transfer.

2.7.3 Values and landscape research

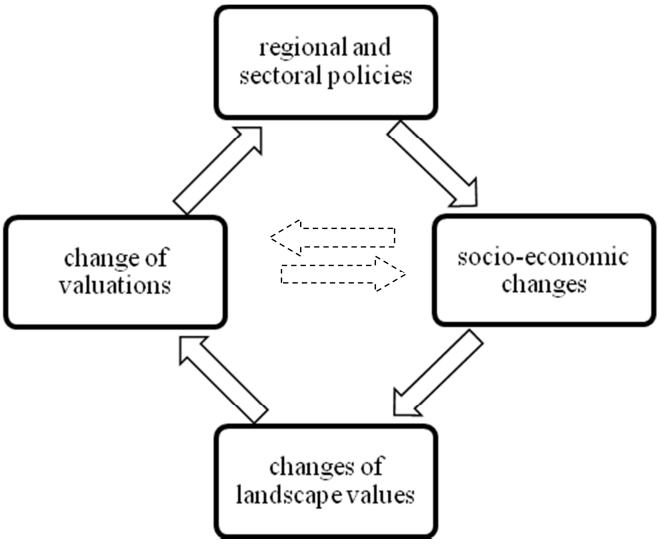
What is the role of values in the context of landscape research? As it was already mentioned in the chapter on values, they are stable ideas, and are expressed through *judgment*, *preference* and *choice* (Williams in Rokeach, 2000) influencing *people's action*. Values form the frame through which we influence the environment and which we use to create an image of landscape according to which we assess it (culture as reality and culture as an idea). Research from the end of the last century rarely included a wider discourse of value judgments and they dealt with the evaluation of perception, cognition, and evaluation only at the level of the observed environment in field research.

The reason for excluding a great number of value and landscape research studies is in the complexity of the research on value systems related to an observed object in relationship to the research of the general value system in life (Buchecker et al., 2009). The authors mention the possibility of an indirect research of correlations between *value orientations, behaviour, preferences* and *attitudes*. "Attitude" is defined by a mental stance, while "preference" means liking one area of land or landscape better than another. "Perception" includes sensual responses to landscapes and to it attached meaning and value" (Swanwick, 2009).



Slika 13: Statični in dinamični model interakcije družbe in krajine (Buchecker et. al, 2003:str.30;31).
Figure 13: A static model of the society-landscape interaction (Buchecker et. al, 2003: p.30-31).

Empirical research on the wetland landscape confirmed the hypothesis that "…cultural concepts of nature are different from scientific concepts of ecological function" (Nassauer, 2004). The author gives an opinion that we shape landscape according to the political system we are in, the economic management of land and our aesthetic preferences, social conventions and all that is comprised under the label of culture, but that culture at the same time filters the perception of landscape (Nassauer 2004). This is in line with the social and individual level of values and with Parsons' action theory of choice. To which scale should a change of landscape be observed? Palang (2000) suggests the regional level as a common level of a cultural group sharing the regional and sectoral policies as instruments of landscape change and presupposes a cyclic relationship of social cultural values and intrinsic landscape values. The transfer of values from landscape to the human is presented in Buchecker et al. (2003) with a static and a dynamic model (Figure 13), and Palang sets a dynamic model at a regional level (Figure 14).



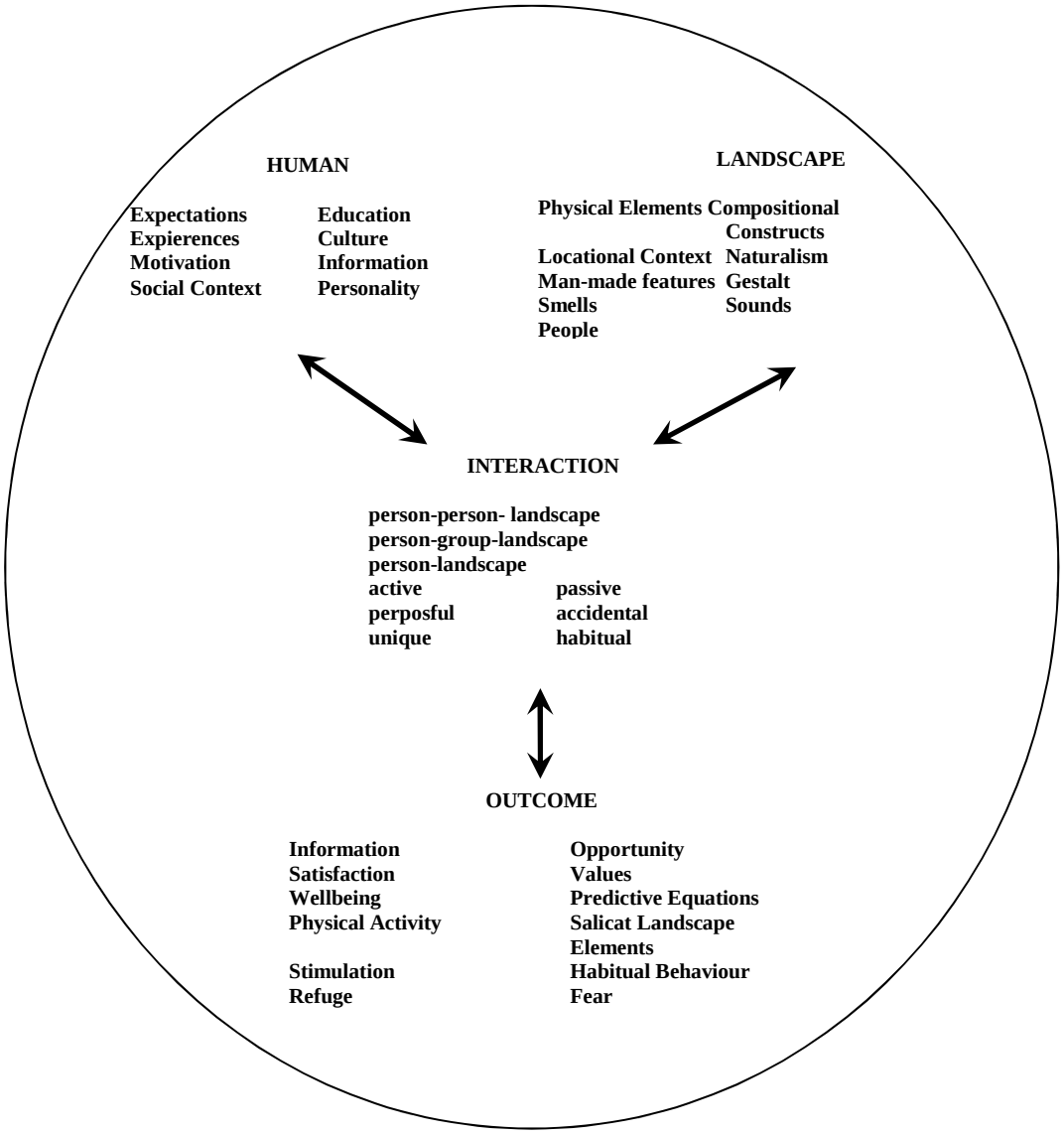
Slika 14: Cikel sprememb krajine na regionalni ravni (Palang, 2000:str 86).
Figure 14: The cycle of landscape change at the regional level (Palang, 2000: p. 86).

2.7.4 An overview of graphic representations of the human - landscape interaction

A multidisciplinary approach to landscape in the narrower scope of aesthetic landscape produced a series of graphical representations of the interaction between human and landscape phenomena in the related scientific literature (Zube et al., 1982, Zube and Sell, 1987; Tress and Tress, 2001 and Gobster et al. 2007). The interaction is represented as dynamic and cyclic and the complexity of the relationship is visible in the complexity of the graphic representations below. The representations vary according to the direction of influence, interactivity, the number of concepts used to depict the process and according to the depicting of levels at which the process takes place.

Zube et al. (1982) presented a human-landscape dichotomy (Figure 15) and separated the concepts of interaction and outcomes. They mention the level of individual (person) and the level of social context (group).

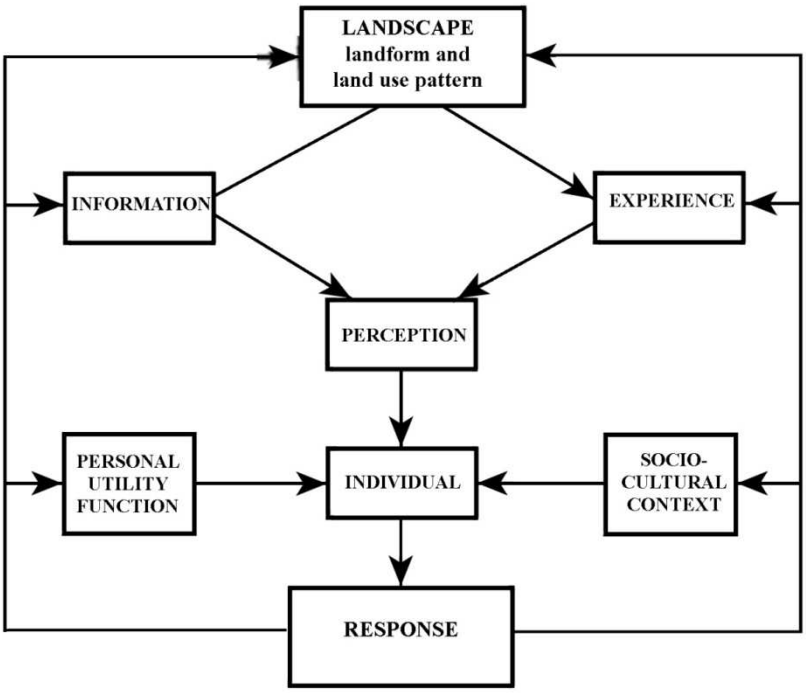
Zube and Sell (1986, cited in Zube 1987) present the interaction in Figure 16 with a smaller scope of concepts. They put concepts in the relation, and landscape and individual are in the basis of the interaction. The authors presuppose a cyclic transfer of influences in smaller and larger cyclic transactions. The largest cycle moves from landscape to response, whereas the smaller ones connect the concepts of information, experience, perception, personal utility function, sociocultural context. Outputs of landscape are information and experience which shape perception. This schema presents the shaping of an individual response influenced by the sociocultural context on one and the personal utility function on the other side.



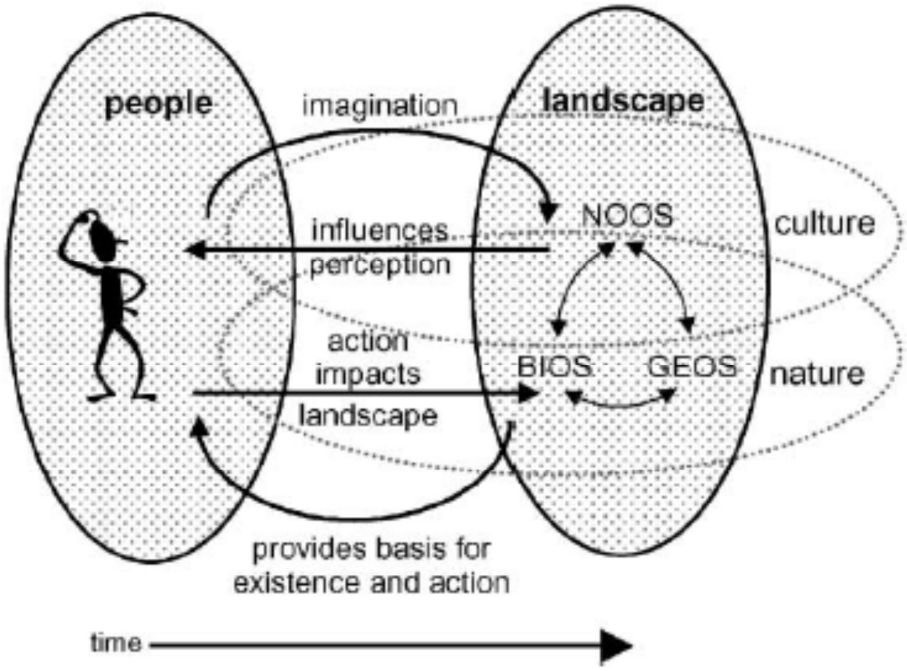
Slika 15: Proces krajinske percepcije (interakcija) (Zube et. al, 1982:str 24).
Figure 15: Landscape perception (interaction) process (Zube et. al, 1982: p. 24).

Tress and Tress (2001) in Figure 17 used the term *people* and introduce in the graphic representation a dimension of *time*. The landscape is defined in five dimensions: spatial entity, mental entity, temporal dimensions, nexus of nature and culture and as a complex system. They design the image as a three dimensional display of relationships where there are two parallel platforms of culture and nature, and in the field of landscape, the dynamic happens between geo-, bio- and noosphere.

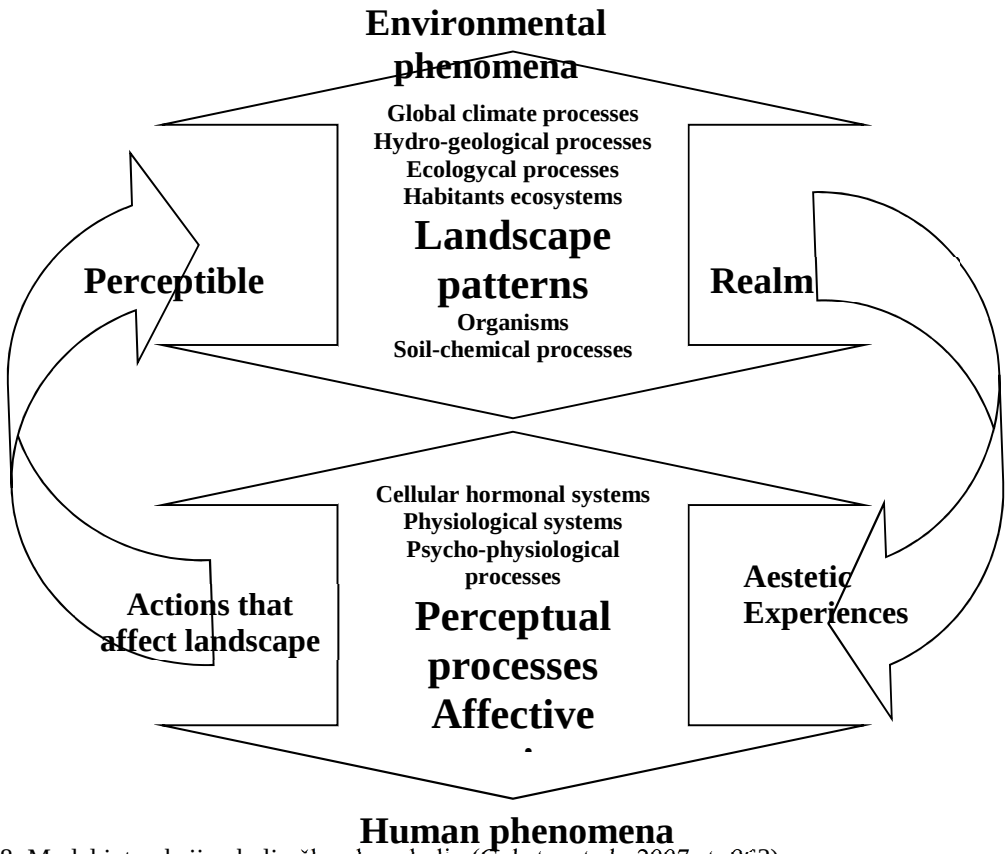
Gobster et.al (2007) offer some wider constructs in Figure 18, so that at one pole they mention environmental phenomena which have their lower level expressed as landscape patterns, and the other pole contains human phenomena with perceptual processes and affective reactions at the lower level. The interaction is analysed through a one directional influence from the human to the environmental via actions that affect landscapes, and the direction from environmental to human through aesthetic experiences.



Slika 16: Transakcijski model odnosov človek-okolje, (Zube, 1987:str 40).
Figure 16: A transactional model of human-landscape relationships, (Zube, 1987: p. 40).



Slika 17: Model odnosa človek-okolje, (Tress in Tress, 2001:str 151).
Figure 17: The people-landscape interaction model, (Tress and Tress, 2001: p. 151).



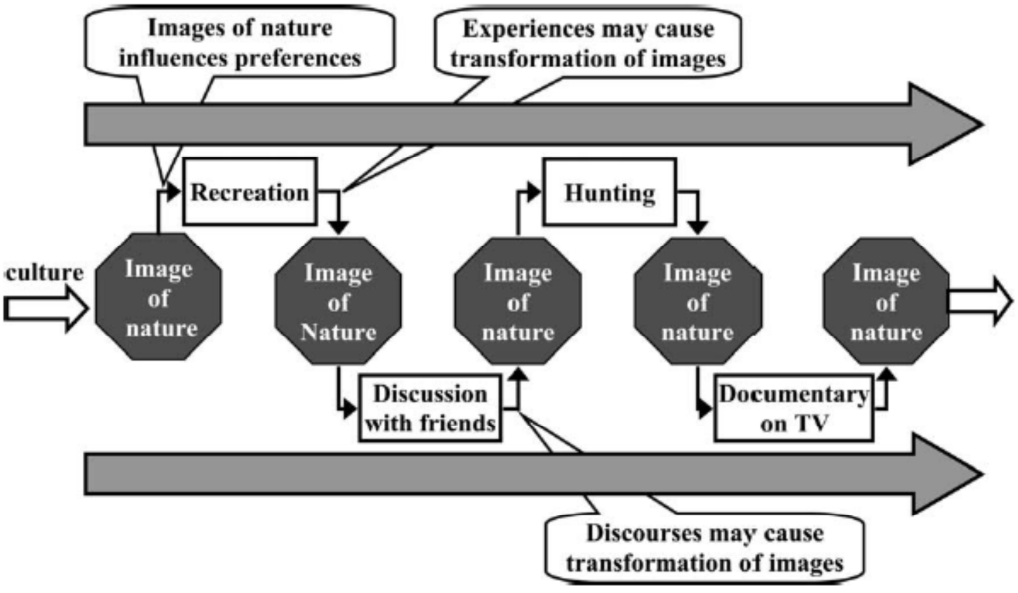
Slika 18: Model interakcije okolje-človek v okolju (Gobster et al., 2007:str 963).
Figure 18: A model of environmental-human interaction in landscape (Gobster et al., 2007:p 963).

2.8 Human and landscape dependence on perception and preference

The psychology of perception refers to two different processes: (1) the basically unconscious processing of sensory information, and (2) the more or less conscious experience of analysing and interpreting this information (Jacobs, 2006). Preference for a specific landscape has been defined by a series of landscape research reports in which authors looked for the elements which had shaped positive preference.

Basic actors of space changes were defined by the European Landscape Convention (Council of Europe, 2000) as action and interaction between human perceptions vs. the perceived area. Although "perceived by people" refers to a holistic experience using all the senses, very often it is reduced to the visual aspects. Research in the domain of interaction has dealt with perception, preference and studied the connection with various input data. Research has shown that there is no unique indicator that demographic factors influence attitudes and preference, but that there is a scientific consensus that some landscapes are preferable to others. This research deals with the correlation of preference with the subject's (respondent's) characteristics; the object's (researched landscape) characteristics or they combine and link those dimensions.

Buijs (2004, 2006, 2009) dealt in his research with the part of the relationship related to unconscious sensory information (Jacobs, 2006) and she defined it with the concept of the "image of nature". The author says that people believe that a yard, a park, a field, a forest, or a city should look a certain way without questioning the necessity of that appearance.

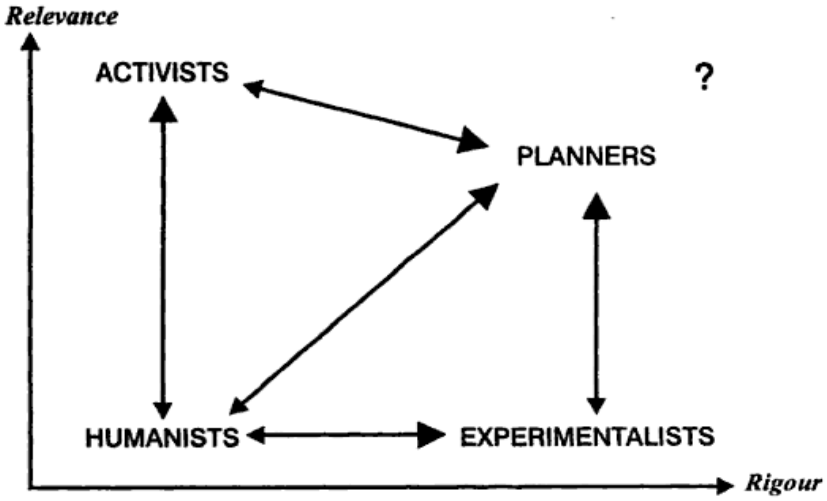


Slika 19: Dinamično preoblikovanje podobe narave in krajine (Buijs, 2004:str 378).
Figure 19: Dynamic transformation of images of nature and landscape (Buijs, 2004: p. 378).

In his research Buijs (2009) compares different images of nature between nations (the Danes and the French) and concludes that they are different and that they influence environmental behaviour and landscape appearance. The path of transformation for images of nature and the influences for its forming is presented in the diagram in Figure 19.

2.8.1 Respondent group coherence

Research classified respondents in different ways, according to sociodemogaphic interests or some other characteristics. The basic distribution of respondents is into expert and non-expert groups. But literature does not recognise an expert group as coherent. Not all experts evaluate the landscape with the same values and in the same way. Porteous (1996) offers a division of expert groups involved in landscape research according to the following two criteria: relevance and rigor. The groups are represented by humanists, experimentalists, activists and planners. Their relationship toward the criteria is shown in the diagram in Figure 20.



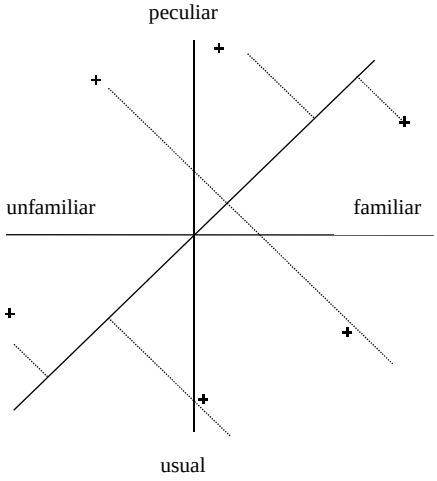
Slika 20: Oblikovanje okoljskih estetik (Porteous, 1996: str 14).
Figure 20: Structuring environmental aesthetics (Porteous, 1996: p. 14).

Most frequently, research observed different sociodemographic characteristics of respondents as well as some specific characteristics related to the observed spatial problem. Familiarity with the scene and the length and character of residence in the space for which the preference was researched have appeared as external influential variables. The relationship toward nature in childhood has been equally important. Most of the research did not find differences in gender distribution.

2.8.2 Attachment to the river

On the basis of the results, the framework of the attachment to the river was established by Ryan (1987), Buchecker and Junker (2008) and Buijs (2009). Their results show a different attitude toward

river and river area restoration considering the situational coherence and the life experience of the observed respondents. Attachment to the river was measured by four questions in order to detect the respondent's attitude to the river area. The first piece of information represents the identification of the river last visited, with an aim of determining the sample of those who were in touch with the observed river bodies (the Drava and Mura). The second two questions relate to the frequency of the respondent's visits to the river and the identification of the manner of spending time at the river. The last question is of an open type and it investigated the respondents' memory regarding their last visit. The answers were coded in four groups after the first review of the concepts. The groups are: nature, water, action and emotion.

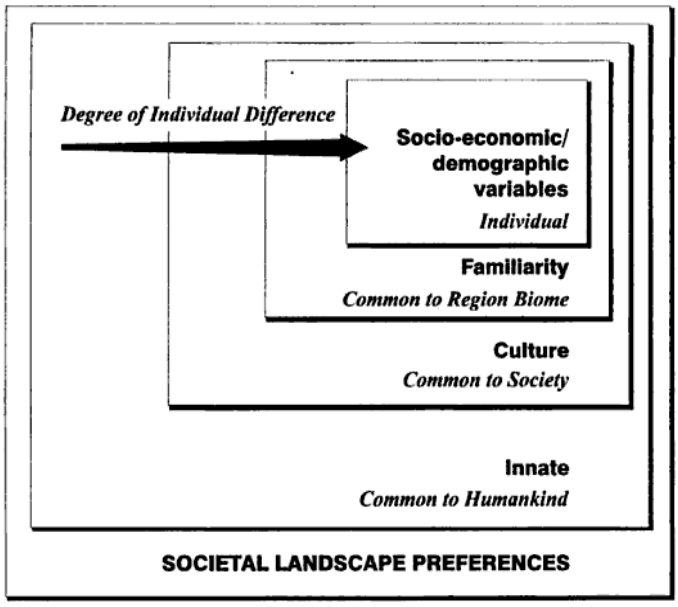


Slika 21: Dvodimenzionalni model prednosti krajine (Kaur et al., 2004:str 111).
Figure 21: Two-dimensional model of landscape preference (Kaur et al., 2004:p 111).

2.8.3 Familiarity

Swanwick (2009) mentions the importance of familiarity with the space. The local population sees "more" but evaluate changes by projecting influences on everyday life. In his research on river landscape preferences Ryan (1998) found the correlation with land use and length of residence. The first variable is reflected in the following results: "Farmers preferred farm field scenes as equally as river scenes. In contrast to the non-farmers, they also indicated a far higher likelihood of taking visitors to see the rural countryside. Residential owners liked the scenes of the river photo category significantly more and would miss the presence of the nearby river or other water features more than the farm. As in the river landscape, demographic differences in perceptions of the woods further validates the notion that those moving to rural areas are attracted to the natural amenities. The length of residence had a strong, significant influence on how much value participants placed on the natural areas along the river, such as woods, wildlife, and quiet location. Newer residents felt that these characteristics of riverfront land were much more valuable than did the long-time residents. This supports the notion that long-time residents may appreciate developed areas equally as much as natural

areas, while newcomers are more biased towards natural areas. Long-time residents (over 25 years) had a higher relative preference for the domestic landscape in the backyard photo than those in the short and mid-ranges of residency. One of the major differences appears to be that farmers and long-time residents appreciate the more domesticated farm and developed areas while new residents and non-farmers are attracted to the more natural landscapes of the river and woods (Ryan, 1998). The results showing different preferences of respondents of different origin were acquired by Buijs (2009) who compared a group of immigrants and local population and Zube and Pitt (1981) who compare Anglo-Americans, Afro-Americans and Latino-Americans. The results indicate a similar distribution where Anglo-Americans are more inclined toward a more natural and the others to a more developed environment. Immigrants also expressed a weaker support to environment protection. Familiarity is quoted by other authors as well, e.g. Kaur et al., (2004) and Daearden (1989) who terms this very dimension as decisive at the level of Region Biome (see Figure 22).



Slika 22: Oblikovanje okoljskih estetik (Porteous, 1996: str 14).
Figure 22: A nested hierarchy of landscape preferences (Porteous, 1996: pp. 124).

2.8.4 Age

Swanwick (2009) provides results which are in favour of the fact that attitudes are formed by childhood experience, and is demonstrated as a greater tendency for spending time in nature (Thompson et.al, 2007 in Swanwick, 2009). Although it is mentioned that growing up in a rural area influences the attitude on responsibility for nature protection, there are some contradictory results as well (Tress and Tress, 2003). The results of the research conducted in the UK (Swanwick, 2009) showed that the population aged 45 to 65 spends time in nature more frequently than in other activities than those younger than 45 (visiting historical places, gardens etc.). Inglehart (1997) demonstrated that

older people in much of the world give higher priority to materialist vs. post-materialist values than younger people. People form values in adolescence that change little thereafter. The more economic and physical insecurity the adolescents experience, the more important materialist values are to them throughout their lives. The lower priority on materialist values in younger cohorts is due to the increasing prosperity and security many nations have enjoyed during most of the past 50 years.

2.8.5 Place of residence

Some research has shown the differences in preferences for respondents with a different place of residence (Junker and Buchecker, 2008) whereas Tress and Tress (2001) differentiated respondents according to the distance of residence into local population, closer regional and distant regional population. The results showed considerable differences in preferring desired development scenarios. Junker and Buchecker (2008) show the attitude, too, that the results shown can be generalised to Switzerland and even to the West European population, but not to cultures and nations with different value systems related to nature[4]. Sevenant and Antrop (2010) observed the following variables for respondents' demographic indicators: gender, education, place of residence in the childhood, place of current residence. The results showed that gender does not influence the results significantly, that education influences the results but cannot be separated in any way. The data on the place where the respondents spent their childhood influences the result in the way that the respondents who lived during their childhood in an open landscape show more positive attitudes to environment protection than those who lived in the centre of a settlement. This is in line with Inglehart's (1997) theory on cohort values according to which values are shaped during childhood and so they become less flexible and variable after that. There are some contradictory results according to which the NEP result (Hawcroft and Milfont, 2010) is bigger for respondents who lived in the town centre than for respondents form the village centre. It is obvious that measuring instruments and sample character influence the results to a high degree as well as the correlation with the sociodemographic characteristics of respondents. The concept of attachment also appears as a variable in several research studies (Buijs, Buchecker et al.). The results are also contradictory in interpreting the dependency of the variable for scenic beauty when farmers project agricultural plots into beauty whereas population in urban centres consider that beauty is Arcadian nature without any human touch, as shown in Ryan (1998), in his study of preferences for riverine landscapes. Kaplan and Herbert (1987) studied the differences between American and Australian students in perception and preference. Differences were observed in both cases with a greater difference in perception.

[4] They consider that to be the Easterneuropean area for which they assume a lower level of awareness of environmetal problems.

2.8.6 Education

Kaplan and Kaplan (1989) established that the difference between preference to natural and artificial landscape depended on belonging to a particular social group and the level of education. Ulrich (1983) found a positive correlation with age and a negative correlation with education. In Table 11, we summarised the impact of socio-demographic variables on the perception of scenic beauty.

Preglednica 11: Vpliv socio-demografskih spremenljivk na percepcijo lepote krajin.
Table 11: The impact of socio-demographic variables on the perception of scenic beauty.

	Decreasing Scenic beauty	Increasing Scenic beauty	Neutral
Age/ Older		+	
Gender			+
Education/ Higher		+	+
Social status/ Higher		+	
Place of living/ Attached to nature	+	+	+
Place of Childhood living/ Attached to nature		+	
Attachment/ (e.g. Farmers, long time inhabitants)	+		
Attachment/ (e.g. non-farmers, new inhabitants, experts)		+	

2.9 Landscape characteristics and preference

Ulrich (1986) defines the following six dimensions of positive influence on preference:

- complexity, or the number of independently perceived elements in the scene to be moderate to high
- the complexity is structured to establish a focal point, and other order or patterning is also present
- there is a moderate to high level of depth that is clearly defined
- the ground surface has even or uniform length textures that are relatively smooth, and the observer judges that the surface is favourable to movement
- a deflected or curving sightline is present, conveying a sense that new landscape information lies immediately beyond the observer's visual bounds
- judged threat is negligible or absent.

Kaplan et al. (1989) defined in four categories the dimensions relevant for preference and tested them empirically (Table 12). The results of regression analysis showed that the variable *perceptual* domain is the strongest predictor, whereas *physical* domain did not show any relevant influence on preference. From the set of twenty dimensions the authors extracted the following dimensions as influential for landscape preference: **mystery** and **smoothness** as positive variables and **weedy field**, **scrubland** and **openness** as negative variables for landscape preference.

Preglednica 12: Okoljska prednost: primerjava štirih področij kazalcev (Kaplan, Kaplan, Brown, 1989:str 524).
Table 12: Environmental preference: A Comparison Of Four Domains Of Predictors (Kaplan, Kaplan, Brown, 1989:p 524).

LANDCOVER	INFORMATIONAL	PERCEPTUAL	PHYSICAL
agriculture	coherence	**openness**	slope/relief
cut grassland			
weedy field	complexity	**smoothness**	edge contrast
scrubland			
	legibility	locomotion	spatial diversity
forests			
	mystery		naturalism
wood lawn			
			compatibility
			height contrast
			variety

Chenoweth and Gobster (1990) used a specific method of decoding respondents' diaries to extract the following objects with respective ratios in their observations:
Vegetation (21%): e. g., flowers, single trees, forest, marsh, prairie
Water (32%): e.g., lakes, rivers, ponds, ocean
Wildlife (18%): e.g., birds, pets, deer, other
Artifacts and people (19%): e.g., buildings (historic, modern, vernacular), people, various land uses
Sensations (12%): e.g., colors, sounds, smells, motion
Ephemerals (30%): e.g., changing of seasons, clouds, sunsets, weather, precipitation
Compositions (30%): natural and built landscapes where the stated emphasis was on the whole scene rather than on specific objects.

Except for the above mentioned dimensions used in preference research, researchers used different sets of dimensions synthesised in Table 13 below.

Preglednica 13: Dimenzije krajine kot kazalci lepote.
Table 13: Dimensions of landscape as predictors of scenic beauty.

Author	Year	Dimensions
Herzog	1985	Spaciousness, Texture, Coherence, Complexity, Mystery, Identifiability
Pogačnik and Prelovšek	1987	Spaciousness, Identifiability, Color, Locomotion
Chenoweth and Gosbster	1990	Vegetation, Water, Wildlife, Artifacts And People, Sensations, Ephemerals, Compositions
		continues
		continues
Hunziker	1995	Tradition, Nature Conservation, Profit And Emotion
Kaplan	1995	Mystery, Coherence, Complexity, Legibility
Van den Berg et al.	1998	Cultivatedness, Roughness, Wetness, Biodiversity, Complexity, Coherence, Mystery
Bralić	1999	Diversity- Heterogeneousness, Particularity -Rarity- Uniqueness , Attractiveness- Picturesqueness, Typical- Characteristic
Palang	2000	Vertical Coherence Horizontal Coherence Functional Horizontal Coherence Visual-Spatial Diversity Land Use Types Diversity No. Of Elements Continuity
Nasar	2008	Identifiability, Complexity, Mystery And Coherence, Spaciousness, Texture
Sevenant and Antrop	2008	Preservation, Historicity, Coherence, Complexity
Buijs	2009	Vegetation, Landscape Diversity, Naturalness, Water Presence, Internal Landscape Cohesion
Ode et al	2009	Coherence, Stewardship, Naturalness and Disturbance

Ode et al. (2009) combined the research connected both to the subject and the object and researched landscape preference in relation to various sociodemographic factors and to three indicators of perceived naturalness. The theoretical framework comprised four dimensions according to which three indicators were set: level of succession, number of woodland patches and shape index of edges. The results showed that sociodemographic factors influence preference to a lesser degree than naturalness indicators. Among sociodemographic indicators it was gender and profession and country as factors which showed some indicative influence on the observed. The study showed a strong relationship with preference for both the level of succession and number of woodland patches, and a weaker relationship with shape index of edges.

Palmer and Hoffman (2001) offered a critique of research in the aesthetic dimension of landscape by checking the two components: (1) the degree of similarity among evaluators (reliability) and (2) the

equivalence of judgments made from photographs and in the field (validity). They classified all research according to the number of locations, the place of research, the type of landscape, the medium used in research, research design and the respondents' sample. The results showed a relative inconsistency in assessment in the case of individual or group assessment and in the case of different information on the validity of the photograph as a presenter of landscape. The authors recommend three things for future landscape assessment research in order to acquire relevant and reliable results: to establish the reliability of professional ratings; to establish the validity of each landscape representation and to establish record of preparing valid visual simulation (Palmer and Hoffman, 2001).

Jacobs and Buijs (2010) adopted a different approach to reveal various dimensions of sense of place. Instead of a theoretically determined categorisation, they formulated dimensions on the basis of an open, in-depth account of people's place meanings as elicited in two studies. Five categories of abstract place meanings emerged from the data-driven analysis: beauty (place meanings related to aesthetic judgments), functionality (place meanings that express ways of using the landscape), attachment (place meanings that convey belonging relations between subjects and the place), biodiversity (place meanings pertaining to species and nature), and risk (place meanings that articulate worries about current or expected problems).

2.10 Conclusion of the chapter on visual and ecological dimensions in landscape research

From the 60's in the 20th century until today the topic of landscape research has represented a heterogeneous platform which offers discussions about research on biotic characteristics of landscape, the relationship between human and landscape, as well as about the research method itself. There are also analyses and overviews of the conducted and published studies and analyses of the new requirements in future research. It has been established that the visual domain of landscape is a domain that is favourable to communication between the experts and the public, as well as to defining its cultural variable. There is a clear trend toward the necessity of a comprehensive landscape research and of including a new paradigm of sustainability, as well as toward the question of how to introduce the results into practice.

In addition to the traditional social and economic dimensions, landscape planners are now asked to integrate territorial policy agendas for environmental sustainability and cultural identity as well (Friedmann et al., 2004).

2.11 The place of water landscapes in landscape research

A river area comprises the space of a river as a water body and the space along the river. A diversity in defining river landscape can be found in the complexity of its content which anticipates a discourse derived from the plant, animal and human habitats as well as from numerous disciplines dealing with the river course and the area around it. Starting with a narrower focus of a water body itself, we come across the division (Marcus et al., 2009, cited in Butula, 2003) into (1) quantitative models such as the concept of continuity of the river flow or the concept of a series of discontinued units, or (2) quantitative models relying on the measuring of elements such as the speed of flow etc. The concept of the ecosystem which was created at the beginning of the 20th century (Tansley, 1935) is suitable for an integral conception of river and its space and it broadens the conception to mutual linking of elements so that a river area is observed in the context of landscape. The new sustainability paradigm expanded the concept of modern development to protection discourse and to the relation between the three pillars of economy, environment and society with the extensions to culture. In their review of trends in European landscapes Vos and Mekees (1999) provide the instructions on sustainable future and separate water landscapes from the typology of natural phenomena and distinguish the recommendations of high priority as two separate items: ecological and hydrological research and research into water usage in the light of sustainable spatial planning. Sustainability presupposes in its basic form the following pillars: ecological, social and economic and in a broader perspective the cultural. Nassauer (2004) claims that "cultural sustainability can be achieved only by the landscape people are proud of or they love" and thus imposes culture into the heterarchy with other pillars.

The role of water has been changing over time, from the role it had in the Mesopotamian and Egyptian gardens until modern recognition of water in a landscape as a distinguished, relevant factor. Water has been observed in human life with its religious, spiritual and mythological meanings until the meanings imparted to it today by modern technical and scientific findings – (energetic, social, cultural meaning etc.).

Burmil et.al. (1999) mention the water discourse through the following prisms: a bio-psychological perspective of water as a primary and secondary element of landscape); a philosophical and spiritual perspective (images and symbols connected to water); water in the environment (a spirit of the place near water); water in the shaping of landscape (formal horticultural shaping, water and landscape aesthetics); human perception and attitudes (on perception, recreation by the water); legal and technical attitudes (acts and norms). Kuiper (1998) thinks that river landscape, more than other types of landscapes represents a link between the everyday rhythm and the continuous flow of the river, man and nature, and past and present.

In the middle of the 19th century managing river flow was marked by a technological approach which focused on defence against floods and a maximal control by using technical measures. The revolution happened in the 70's when care for nature and landscape quality was born (extending/spreading of the moral object). In the context of landscape value research reported in the chapters above, both river area, as well as a general concept of landscape, have been observed through objectivistic and subjectivist research and more recently with an intention of a holistic, integral approach to water landscape in ecological-visual research.

The objectivist ecological paradigm relies on the 2000/60/EC Water Framework Directive by the European Parliament and of the Council which establishes the framework for acting of the European Union in the field of water policy. The Water Framework Directive (hereafter WFD) was adopted on 23 October 2000. The Water Framework Directive (WFD) is the most substantial piece of EC water legislation to date and is designed to improve and integrate the way water bodies are managed throughout Europe. The WFD provides a comprehensive view of aquatic ecosystems and water management with the overall objective to achieve a good status in all water bodies by 2015. It deals likewise with surface water and groundwater, whereas surface waters comprise rivers and lakes (inland waters) as well as coastal and transitional (e.g. estuaries) waters. Being a "framework", the Directive focuses on establishing the right conditions to encourage efficient and effective water protection at local level, by providing a common approach and common objectives. However, the mechanisms and specific measures required to achieve a "good status" are left to each EU member state and will be within the responsibility of competent authorities appointed on a national level.

The WFD is based on five key principles:

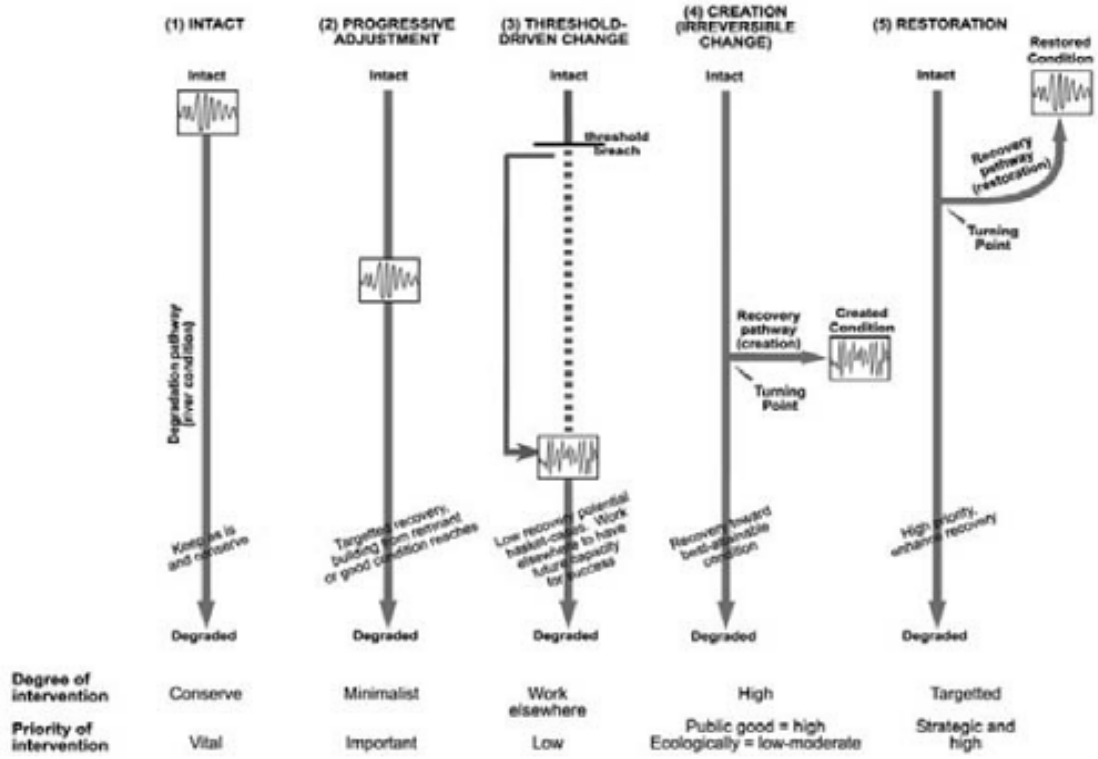
1. It is **holistic**: the whole water system is considered in a coordinated way, where synergies are identified and duplicates avoided. The water system comprises groundwater, surface water and marine water
2. It applies an **integrated approach**: links to other policies, such as agriculture and land use planning are identified
3. It is **transparent**: public participation and consultation is a central issue.
4. It follows economic principles: cost-effectiveness of measures and efficient water use through proper pricing policies are key issues.
5. It is **ecological**: the overall target is to reach the good status of a water body. This includes the good ecological status which is assessed by comprehensive biological monitoring. (Quevauvillerimas, 2007)

The WFD foresees a clear roadmap for achieving the good status in all water bodies. Starting with a characterisation of surface waters and groundwater systems and finally resulting in a comprehensive

river basin management plan that comprises a detailed course of action for achieving the good status. The novelty introduced by the WFD was the fact that water management is not anymore within the administrative borders but within the river basin as a hydrological unit. In addition, the criterion of "good status" is clearly described and measurable. An economic price for water distribution and the treatment for polluted waters has been established, and finally, the public has been involved in the creation of management plans. In the past the focus of those plans was on a few hazardous substances, water quality in households, visible pollutions like foaming and massive death of fish. Over time the focus has shifted to water shortage and the need to use water more efficiently, then to river renaturation and maintenance of the ecosystem in the river area and to treat pollution on a much smaller scale, i.e. to monitor the status of waters at a microbiological level. The member states have a deadline to implement this Directive by the year 2015. All ecological river paradigms have been marked by this Directive which has become the starting point for the lower levels due to its dimensionality.

In the review article "The human role in changing river channels," Gregory (2006) offers an overview and classification of human impact on the river flow. He defines five types of impact: dams, channelization, channel modification, river diversion and water extraction. The role of geomorphologists, physical geographers or environmental scientists is seen in their participation in a multidisciplinary team as members who have the advantage of knowledge of the evolution of river channel systems and river landscapes. Design is seen as a possible context of implementing geomorphological information into existing practices of river management. The paper also mentions the importance of cultural perception of river corridors and suggests a research set of cultural geomorphology.

Fryirs and Brierly (2008) studied models for restoration of river channels. Among other things, they offered a conceptual view of changing chanels (see Figure 23).



Slika 23: Scenariji za obnovitev reke, ki se temeljijo na vrsti degradacije in odgovor obnovitve (Fryirs and Brierly , 2008: str 75).
Figure 23: Scenarios for river recovery based on type of degradation and recovery response (Fryirs and Brierly , 2008: p 75).

Since the late 1960's landscape preference research results presented water as a strong positive contributor to perceived landscape beauty (Shafer et. al, 1969; Palmer and Zube, 1976; Zube et al., 1982; Kaplan and Kaplan, 1982; Ulrich, 1983, Herzog, 1985; Parsons and Daniel, 1991; Yang and Brown, 1992; Nassauer 1995; Ryan, 1998; Buchecker and Juncker, 2008; Buijs, 2009). All waterscapes are not preferred to the same degree. In line with this it is the variable of the openness of a water body which affects the preference in the sense that a lake has an advantage to a river scene, which has an advantage to swamp (Ellsworth, 1982 cited by Ryan, 1998; Herzog, 1985). Fry et al. (2009) defined in their research the common ground between the visual and the ecological, water as a common theme in the field of imageability and key ecological structures. In the dimension of vividness, the concept of water is a landscape attribute, and on the level of an indicator there are definitions of the presence of water and of moving water. Nassauer (2004) reached the same decision in her research of wetlands, where the open swamp water was assessed as more preferable. Herzog (1985) found mountain riverine landscapes as the most preferred and swampy areas as the least preferred water phenomena. He studied four categories of waterscapes: (1) mountain waters, (2) wetlands, (3) rivers and (4) lakes. He also studied the movement of water as a variable for preference and the results showed that people prefer an open waterscape, waterfalls and running waters and disliked stagnant water. Brown and Daniel (1991) examined the relationship between flow quantity

and scenic beauty and found out that preference increases to the specific point and after that decreases as flow continues to increase. Riparian vegetation is also defined as a variable for prediction of preference (Mosley 1989, cited in Le Lay, 2008) and is increased by an open forest, with a mixture of grass and plants. Reflection is also defined as an increasing element for perceiving waterscape naturalness (Kaplan and Kaplan, 1989).

Le Lay et al. (2008) conducted a cross cultural research on perception on in-channel wood in riverine landscapes. The results show different attitudes to riverine landscapes and perception of in-channel wood between two groups. Students from China, India and Russia do not perceive wood as a positive scenic issue and represent the "against nature" group while those from Germany, Sweden and Oregon represent the environmentally sensitive students. The authors explained these results to be associated with the differences in decision-making philosophy, in land-use contexts, and in environmental education. The variability in attitudes towards riverine landscapes is seen by the authors as a difficulty of the sustainable development concept at a global scale and propose to local residents to be more involved in watercourse management.

Kaltenborg and Bjerke (2002) established a positive correlation of ecocentric environmental orientation and a preference for wild lands with water and for cultural landscapes, while the anthropocentric value orientation correlated positively with preference for farm environments. Buijs (2009) compared the dimensions of preference on the basis of changes in the same waterscape (Table 14). He compared the perception of scenic beauty before and after river restoration and the influence of the dimensions on the increase in scenic beauty. Results separate the following dimensions as positive, neutral and negative in the evaluation:

Preglednica 14: Vrednotenje javne podpore projekta Prostor za reke (Buijs, 2009: str 2684)
Table 14: Evaluation of public support for Room for the River measures (Buijs, 2009: p. 2684)

	EFFECT RIVER RESTORATION
Coherent area	STRONGLY POSITIVE
Diversity of landscape	
Attractive water	
Unspoilt	
Impressive	POSITIVE
Tidy and well-groomed	
Dynamic	
Visibility of river	NEUTRAL
Many different species of animals and plants	
Grand views	
Vegetation	
Seasonal variation	
Many rare species	
Peace and quietness	NEGATIVE

Prior results of river area research indicate a special "sensibility" of these natural phenomena, their specific multi-disciplinary and cross-cultural scope and the need to draw attention to them in the field of visual domain. In accordance with this, Decamps (2001) points out the importance of ecological and cultural sustainability of river areas, whereas Buchecker and Junker (2008), search for the link between the visual and the ecological dimension for river areas.

2.11.1 Planning of the river- and cross-border river area

Planning of river area anticipates different professions: spatial planners, landscape architects, economy subjects, farmers, inhabitants, tourists, energetic specialists, environment protectors and others. Spatial planning as an interdisciplinary profession whose objective is shaping, using and managing of planned space comprises all stakeholders (Marinović-Uzelac, 2003). In many countries planning is a top-down process. In the international field interactive planning is mainly used in land consolidation and Natura 2000 projects. The connection between river basin planning from the hydrological and spatial planning discourse has become more dynamic in recent decades. In the integrated European space the WFD (2000) has received its cross-border scope with the promotion of river basins (Molle, 2009), whereas the European area is treated in the field of spatial planning as unique in the form of strategic recommendations (ESDP, 1999) and financial programs (INTERREG). In EU member states, water resources management is practiced at the basin level pursuant to the WFD – River Basin Management Plans (RBMPs) being the main tools.

Preglednica 15: Ključni vidiki in razlike med vodami 20. in 21. stoletja (Van den Brugge et.al, 2005:str169).
Table 15: Key aspects and differences between water management style of the 20th and the 21st century (Van den Brugge et al., 2005:p 169).

Water management style the 20th century	Water management style the 21st century
Command and control	Prevention and anticipation
Focus on solutions	Focus on design
Monistic	Pluralistic
Planning approach	Process approach
Technocratic	Societal
Reactive	Anticipative and adaptive
Sectoral water policy	Integral spatial policy
Pumping, dikes, drainage	Retention, natural storage
Rapid outflow of water	Retaining location specific water
Hierarchical and closed	Participatory and interactive

The connection between water management and spatial planning was the object of study of several authors (Moss, 2004; Van der Brugge, 2005; Wiering and Immink, 2006) and lately of several projects under different EU Funds (LIFE, INTERREG, IPA).

Wiering and Immink (2006) in Table 15 offer an analysis of two systems of planning (spatial and fluvial) on the basis of overview of the traditional approach to spatial planning and river management and the changes brought by contemporary requirements and shock events (floodings) in the Dutch area. Traditional planning is defined as "facet-sector planning hierarchy" which uses the following concepts: concentration of urbanisation, the compact city, spatial cohesion, spatial diversity, central-places hierarchies and distance-decay models (Hajer and Zonneveld, 2000 cited in Wiering and Immink, 2006:427). The authors judge the "rule and order" doctrine in both planning systems as favourable to cooperation but the presence of water and land were treated separately in that system. The authors envisage the restructuring of that cooperation by changing the approach to spatial planning and by applying the new system of strategic planning, where the change in the system of river management happened in the change of scope, from the narrower technical river scope to a wider "space for river" scope. The authors provide a parallel overview of safety and flood risks according to water managers and spatial planners (Table 16 based on Immink, 2005).

Preglednica 16: Varnost in poplavne nevarnosti v skladu z vodnimi upravitelji in prostorskimi planerji (temelji na Immink, 2005, Wiering i Immink, 2006:str.432).
Table 16: Safety and flood risks, according to water managers and spatial planners (based on Immink, 2005, Wiering i Immink, 2006:p.432).

Issue	Water managers	Spatial planners
Flood risk (ontological discourse)	Flood risks are measurable cause / effect relations within water systems. Probabilities and effects can be translated into universal norms and comprehensive models.	Flood risks are context dependent, being part of a complex of interrelations between social, physical, and spatial features of a particular place, as well as depending on human risk perception.
Perspective on safety (normative discourse)	`Safety first' is the leading policy principle. River management must be focused on making room for the riverbed itself to reduce the probabilities of risk.	Safety is one of the more strategic principles underlying a sustainable, resilient, and attractive spatial and landscape planning in river basins.
Policy strategy and measures (strategic discourse)	Modelling of probabilities and effects translated in spatial claims for dike relocation and other water system related measures.	Flood risks can be reduced by incorporating the specific features of the region and facilitating collaborative planning to create strategic and creative perspectives on regional spatial development.

By comparing Table 15 and Table 16 we may observe that water management style of the 21st century has come closer to a multidisciplinary character of spatial planning. Therewith the trend of water management was defined. The field of planning theory has gone through periodical changes, with previous dominant theories drawing on, and in turn reacting to, urban-form concepts; comprehensive, rational decision-making, advocacy, and equity planning (Huxley and Yiftachel, 2000; Faludi and Van der Valk, 1994; Table 17). On the West European theoretical platform of planning in the 90's the titles of scientific papers on the theory of planning offer concepts such as "new planning" (Healy, 1992), "new approaches" (Albrechts, 2001), and "innovative" (Rivolin and Faludi, 2005). Concepts of

comprehensive planning, rationalism, technicism and land-use suffer critique and shift to strategic planning, communicative planning, structural plans and emancipatory planning.

Preglednica 17: Projektni načrti in strateški načrti (Faludi and Van der Valk, 1994:str 3).
Table 17: Project plans and strategic plans (Faludi and Van der Valk, 1994:p 3).

	Project plans	Strategic plans
Object	Material	Decisions
Interaction	Until adoption	Continuous
Future	Closed	Open
Time element	Limited to phasing	Central to problem
Form	Blueprint	Minutes to last meeting
Effect	Determinate	Frames and reference

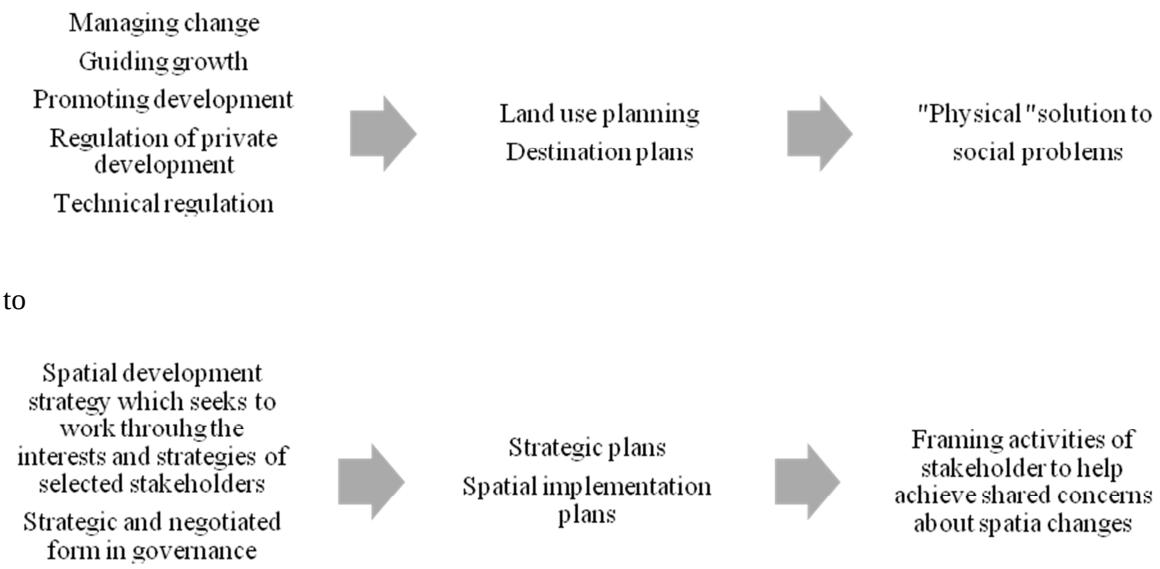
The classification of types of planning in the EU Compendium (1997) argues that Belgium, France, Ireland, Luxembourg and the UK are taking up elements of the comprehensive integrated approach. It also asserts that Germany, Ireland, Sweden and the UK are moving towards the regional economic planning style, and that Spain and Portugal are moving towards more land-use regulation. The reform of planning subsequently calls for a stronger role for the planning system in shaping change and a shift in the very culture of planning. The new approach requires the reworking of the tools of planning to offer the planning authorities more opportunities to take the initiative in development, to provide a strategic framework, and to engage stakeholders more effectively (Nadin and Stead, 2008).

British author Healy (2004) defines strategic spatial planning as: "self-conscious collective efforts to re-imagine a city, urban region or wider territory and to translate the result into priorities for area investment, conservation measures, strategic infrastructure investments and principles of land use regulation." Albrechts (2004) provides an overview of definitions ranging from the Webster's dictionary, authors who developed the concept within the economic discipline to the spatial context of the American and West European area. This overview establishes a clear connection between the concepts of modern state, competition and strategic planning. Kunzmann (2006) also poses the question of strategic planning in the context of the market economy and interprets the difference between the side favouring the market economy over the state interventions and the side that believes in state authorities undertaking long-term spatial plans. This explains the reason for the non-existence of any strategic plans in the regions with a high degree of centralisation where the market economy was limited and unacknowledged as a management mechanism. Such a situation can be found in the area of ex-communist countries in Southeastern Europe. Prior practice relied on the authority of profession which was considered legitimate. By using implementing acts such as site and building permits, spatial plans were the instruments for discarding unwanted phenomena in space, and not the instruments for planning of desired functions and structures (Albrechts, 2004). Salet and Faludi (2000) identify three main approaches to strategic spatial planning at the beginning of the new century:

"• An institutional approach, which favours two main directions: one oriented at legitimising planning activity, the other seeing institutionalisation processes mainly as an opportunity for the implementation of plans and projects.
• A communicative and discursive approach that favours framing and sense-giving activity; an interactive approach, suspended in a technocratic tension, oriented to building up connections between public and private organisations in order to improve performance in planning.
• A sociocratic tendency, focused on the inclusion of society and emergent citizenship." (Salet and Faludi, 2000 in Healy, 2004:35).

As an integral part of strategic planning there is a concept of "communicative planning". According to Throgmorton (1993) (cited in Faludi, 1994) the communicative approach builds on three principles:
(1) Plans, analyses, and in fact the stories in plans are always addressed to someone, so the audience is important.
(2) Planning-related utterances are replies to other utterances, so we always argue in the awareness of differing or opposing views.
(3) The meaning of such utterance is beyond the control of the author, so we must think about this "play of meaning" and about how audiences reconstruct meanings.

In the last decade the philosophy of planning has been changing which caused a change in the type of plans. Albrechts (2004) summarises the changes as in Figure 24.



Slika 24: Od tradicionalnega prostorskega načrtovanja k strateškemu načrtovanju (Albrechts, 2004: str 748).
Figure 24: From traditional land use planning to strategic planning (Albrechts, 2004:p 748)

The critique of strategic planning is found in its vagueness, too much challenge for the profession (education for strategic planning) and insufficient maturity of the arenas which should participate in communication in order for planning to be successful. “Today’s modellers seem very uncomfortable with the uncertainty, which they try hard to quantify and excise, whereas the planners do not sufficiently appreciate the indeterminacy that alone leaves room for shaping the future. Both sides need to be bolder” (Coucalis, 2005). In addition to the traditional social and economic dimensions, planners are now asked to integrate territorial policy agendas for environmental sustainability and cultural identity as well (Friedmann et al., 2004).

Not sooner than in the previous decade did scientific and expert literature on planning expand its discourse to Central and Eastern Europe due to the expansion of the area of the European Union and due to the harmonisation of legislation. The Alps-Adriatic Working Community published in the year 2002 the publication “With Spatial Planning Instruments to More Effective Solution.” The connective link covered the eastern part of the EU – Austria and Italy, as well as the neighbouring countries of Slovenia, Croatia and Hungary. The publication provided an overview of the spatial planning system in member states (Austria, Croatia, Italy, Hungary, Slovenia).

The role of strategic planning in planning cross-border river areas has a potential due to its characteristics of flexibility of the temporal dimension where it is possible to find the solution for shock events such as floods or draughts but also to look for long term solutions in accordance to the demands of sustainable planning. The modus of conflict resolution can be a harmony or conflict model (Jones 1993 in Kaur, 2004). The former is based on the responsibility of institutional tools, and efforts are directed toward coordination and agreements. This model is characterised as a passive approach which treats values technically. The latter model searches for the source of conflict in value differences so that the efforts are directed toward active confrontation of interests, stakeholders, negotiations and overcoming dissatisfaction. The author suggests a combination of the two models as the most favourable solution.

2.12 Conclusion of the chapter on the researched river landscape area

Trans boundary river basins cover up to 90% of South–Eastern Europe, and more than a half is covered with basins shared by three or more countries. Alongside the problems stemming from industrial and agricultural pressures, an increase in the burgeoning regional tourism sector has also placed additional seasonal stress on water resources by increased water use, and generated higher levels of sewage and water pollution (UN Second assessment on trans boundary rivers, lakes and ground waters, 2011). A traditional use of rivers as recipients of effluent has had obvious negative environmental impacts. But there are other negative impacts such as “river regulation” (irrigation,

drainage, the construction of navigation channels, reservoirs, dams, etc.); damage to habitats and over-exploitation or direct impacts on species. The Drava and its main tributaries are significantly altered with a large number of hydraulic structures (ICPDR, 2009).

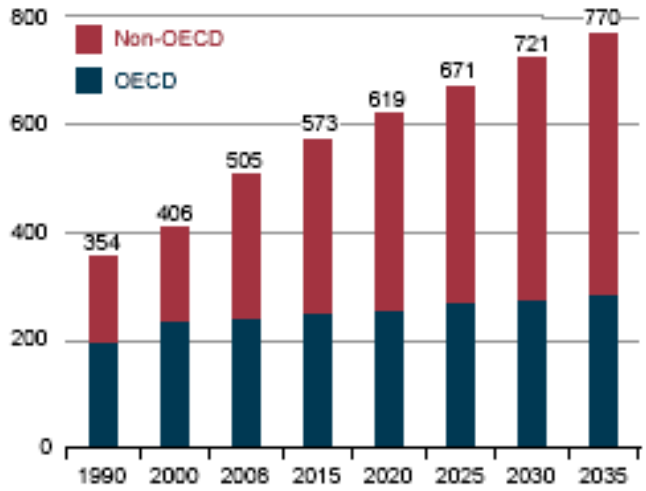
The Drava is a river in southern Central Europe with a length of 749 km and with an average discharge of 560 m^3/s and it is the fourth largest (41.238 km^2) and fourth longest tributary of the Danube. The Drava begins in Toblach, Italy, (approximately 1,450 m above sea level), and flows eastwards through East Tirol and Carinthia in Austria, into Slovenia, and then southeast, passing through Croatia and discharges into the Danube near Osijek, Croatia (at approximately 90 m above sea level). The Drava downstream of the Mura River confluence constitutes, for the most part, the Croatian-Hungarian state border (a total length of 136 km). A part of the Mura River in Croatia also constitutes the state border with Slovenia and Hungary (total length of the 79 km). The total length of the Mura River is 465 km.

In their paper on researching attitudes on the basis of simulating four scenarios, Tress and Tress (2003) compared the attitudes of the population differentiating them according to distance: local population – population in the observed zone; nearby population living in the distance <10 km; regional population living in the distance >10 km from the observed region. The scenario simulating industrial development was evaluated most positively by the local population (72,2%), and least positively by the experts (33,4%). The tourism and recreation scenario was evaluated as positive by the nearby population (72,6%), but to a lesser degree by the regional population (14,2%). The nature conservation scenario was most positively recognised by the regional (100%) and least positively by the local population (47,3%). The residential expansion scenario was recognised as positive by the nearby population (40,9%), and as the least positive by the regional population (14,3%). The results from Tress and Tress's (2003) research indicate that the reactions of the local population are guided by personal prosperity and values projected from an individual level. The development is assumed as positive, whereas the limitation of protection is a reaction by the local, but not by the directly affected population. The NIMBY effect appears in relation to environment protection and not in relation to its exploitation and pollution. Interest at the individual level represents the strongest motivation for the respondents.

It is assumed that a different character of the three rivers in Ljubljana, Kaposvar and Osijek would influence the respondents' attitudes (see Figure 30), but we have not found any data on previous research which would help us in assuming the scope and intensity of the influence. The differences in the three examples are found in the differences in the water body (average flow, width and depth), the situation of the river in the body of the town and the purpose of the river area. According to the data, the Ljubljanica in Ljubljana and the Drava in Osijek have a similar water flow but different height and

width of the watercourse. Kapos has a distinctively lower flow and the water flow depth. The Ljubljanica and Drava have a role in the public area of the town which is organised on the banks of the central area. During 2010 and 2011 in Ljubljana there was a trend in redesigning the river area, whereas Osijek has had an ongoing issue of planning an aqua park on the other bank of the Drava. In 2010 the Kapos flooded the area, endangering the residential and business facilities at the river bank. Since the connection of these experiences has not been researched, we shall not be able to establish the link in the interpretation of results but they will be interpreted in relation to the provided facts.

The results are expected and in line with the paradox of the world ecological problem which lies in the fact that 22% of the developed countries consume 88% of the world's resources and spends 73% of the energy (Miller, 1994 cited in Pelletier, 2004). The data from the *International Energy Outlook* 2011 (US Energy Information Administration in Figure 25) reveal a trend of energy consumption for the developed and non-developed countries (OECD, non-OECD). There is a forecast that the developed countries would streamline the energy consumption by lowering its rate, whereas the undeveloped world would increase the consumption in a much quicker pace.



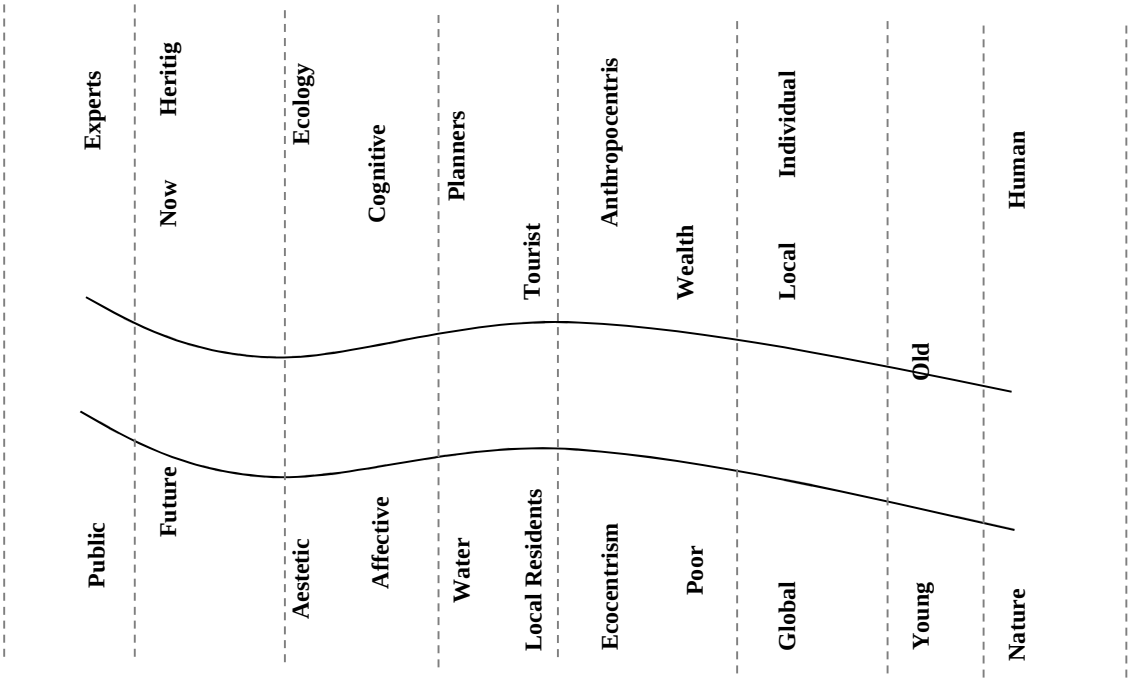
Slika 25: Projekcija konzumacije energije za zemljo OECD-a in Non-OECD-a do leta 2035
http://www.eia.gov/forecasts/ieo/index.cfm (pridobljeno 20.10.2011)
Figure 25: Projection of energy consumption for OECD and non-OECD countries by 2035
http://www.eia.gov/forecasts/ieo/index.cfm (accessed on 20.10.2011)

It follows that responsibility should not be directed toward the current but toward the projected state where there is a clear objective of resource consumption in a sustainable way, and for future generations. The attitude of the young respondents will be interpreted in relation to the awareness about the common goal and the attitude on sustainable planning and managing of river resources.

2.13 Conclusion of the chapter on theoretical outset

Ethics is an integral part of science and scientific research whose objective must be set in the direction of improving life and living conditions. In the ethical development of the man-nature relationship, the shift has been made in expanding the moral object and anthropocentrism-egoism moves to holism so that man as the subject of ethics becomes responsible for the ecosystem as a part of the ecosystem. Ethical principles have their performance in values. Values are shaped interactively on an individual, social and global level, and are expressed through judgment, preference and choice. Schwartz (2009) offers a definition that values are beliefs tied inextricably to emotion, not objective, cold ideas. Inglehart and Welzel (2005) conclude on the basis of empirical results that the feeling of existential security present in society is more important than cognitive factors and that cultural change is not determined simply by cognition and rational choice but the exposure to different existential conditions. The authors conclude that expressive values encourage perception of risk.

Global society is divided by cultures which are structured by different value systems. Cultural borders overlap with national borders since values are shaped by "government, legal systems, educational systems, industrial relation systems, family structures, religious organisations, sports clubs, settlement patterns, literature, architecture, and even scientific theories" (Hofstede, 1983). Culture exists as reality in its material propositions but it also exists as an idea. One of its material indicators is a landscape shaped according to realistic propositions but also according to the idea of a landscape. A landscape is in action and interaction with human perception. Relationship variables can be found in the group of objective characteristics of a landscape and in the subjective-objective characteristics of the observer and his/her conditions. Water landscapes are preferred to all other landscapes due to their scenic beauty and, on the other hand, due to a large pressure on ecosystems. River basins are cross-cultural links as well as conflicting elements in different thematic discourses (energy use, agriculture, biotope protection, transportation flow, borer territory, upstream-downstream etc.). Water management and spatial planning should find a way to join cultural, global environmental, territorial and legislative discourses in order to respond to a global task of sustainability of natural resources. A long-term dimension of the strategic plan should satisfy global aspirations for resource sustainability whereas short-term actions should respond to potential conflicts of stakeholders (Figure 26) or to environmental shock events. River area planning comprises complex dynamic ecosystems and human cultural systems.



Slika 26: Metafora morebitnih sporov na področju načrtovanja obrečnih krajin
Figure 26: The metaphor of potential conflicts in the planning watershed area

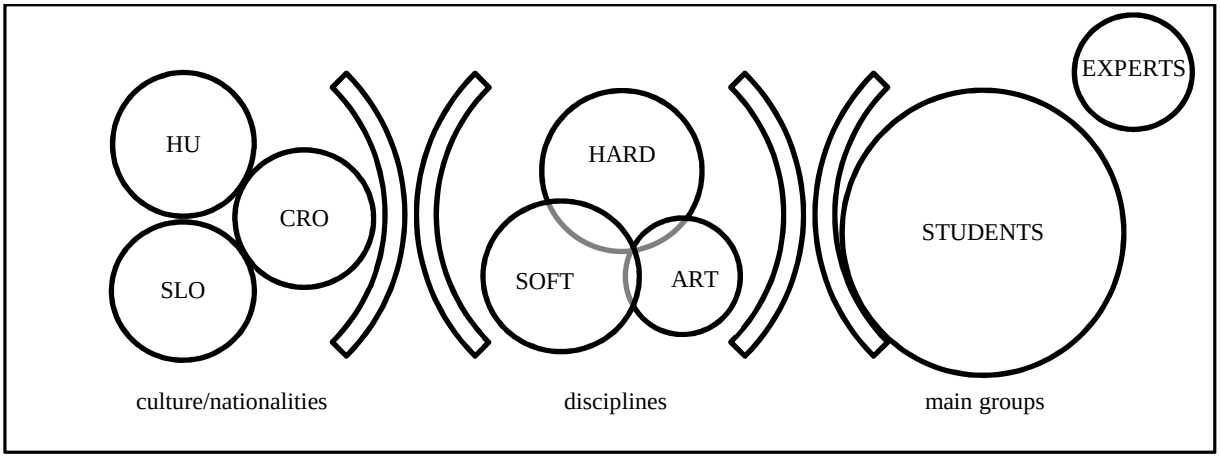
3 FOUNDATION FOR THE STUDY

Since the sample is not even close to being representative, it was treated as a set of individual respondents so that the answers have been processed on an individual level within groups. Inglehart and Welzel (2005) compared in their research the results at an individual and aggregate level for their two dimensions in four waves of research and reached a decision that the individual level shows somewhat lower factorial results but that there are still visible dimensions of similar structures at an individual and national level. The differences at those two levels are interpreted by the authors as indicators of minority effects, context effects, and a combination of effect thresholds and central tendencies.

In the first stage of the present study, attitudes of all students were investigated, and in the second the stakeholder groups were compared (Butula, 2004). The research was conducted on a convenience sample which cannot be generalized to the level of culture but it tests the attitude of the young at all observed universities. The correlations of the set thematic frameworks and respondents' socio-demographic characteristics were researched.

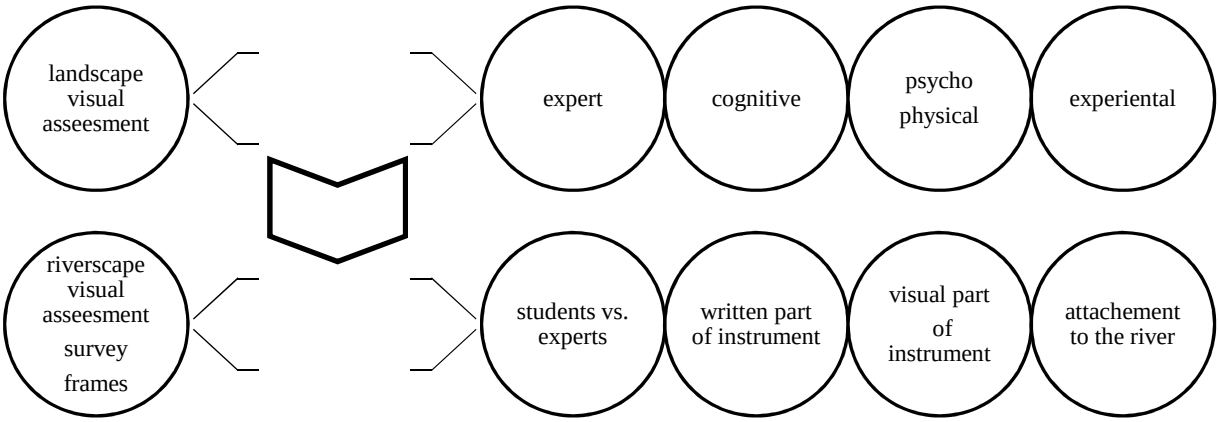
When selecting the survey sample the following frames were set up in order to define clusters (Figure 27) of interests in river landscapes:

- Nationalities
- Hard and soft studies
- Gender
- Students and experts



Slika 27: Koncept načrtovanja vzorca treh kulturnih/nacionalnih skupin in disciplin
Figure 27 The concept of planning the sample of three cultural/national groups and disciplines

Thematic frames shown in Figure 28 are set according to the distribution of paradigms in researching landscape visual assessment by Zube et al.(1982) (the expert, psychophysical, cognitive and experiential paradigm).



Slika 28: Koncept tematskih okvirov instrumenta po Zube et al. (1982).
Figure 28: The concept of thematic frames of the instrument by Zube et al. (1982).

According to Biglan's classification (1973), all academic disciplines are defined as applied, and divided into a hard and soft dimension. In this survey, the hard disciplines were represented by agriculture and civil engineering faculties and the soft ones by economics, education and art. It was assumed that the disciplines would follow the opposing attitudes that Becher (1994) defined as practical and functional, while the other would be more intrinsic. Characteristics of individual disciplines according to Becher (1994) are given in Table 18: **Characteristics of individual disciplines (Becher, 1994:p 154).**

Preglednica 18: Značilnosti posameznih disciplin (Becher, 1994: str. 154)
Table 18: Characteristics of individual disciplines (Becher, 1994:p 154).

Disciplinary grouping	Nature of knowledge	Nature of disciplinary culture
Pure sciences(e.g. physics): hard pure	Cumulative; atomistic (crystalline/tree-like); concerned with universals,quantities, simplification; resulting in discovery/explanation.	Competitive, gregarious; politically well-organized; high publication rate; task-oriented.
Humanities (e.g. history) and pure social sciences (e.g. anthropology): soft pure	Reiterative; holistic (organic/river-like);concerned with particulars, qualities, complication; resulting in understanding/interpretation.	Individualistic, pluralistic; loosely structured; low publication rate; person-oriented.
Technologies (e,g, mechanical engineering): hard-applied	Purposive; pragmatic (know-how via hard knowledge); concerned with mastery of physical environment; resulting in products/techniques.	Entrepreneurial, cosmopolitan; dominated by professional values; patents substitutable for publications; role-oriented.
Applied social sciences (e.g. education): soft applied	Functional; ulitarian (know-how via soft knowledge); concerned with enhancement of [semi-] professional practice; resulting in protocols/procedures	Outward-looking; uncertain in status; dominated by intellectual fashions; publication rates reduced by consultancies; power-oriented.

3.1 Data entry

The visual part of the survey was analyzed by seven levels of data:

- the best and the worst vista
- rank
- positive and negative elements
- added elements
- written comments

All data were entered onto a Microsoft Excel sheet. The structure of circled and crossed out elements was coded according to the structures by which the altered vistas were entered on the Microsoft Excel sheet. The comments were translated and entered into the same sheet. The answers of the closed type were entered into the Microsoft Excel table, and two open type questions were coded and then entered according to the defined categories.

3.2 Data analysis

Surveys are one of the most common forms of research to reach for collecting cross-cultural attitudes, so we included as many questions as possible that were quantitatively analyzed on a 5-point Likert scale. The methodology is basically quantitative (in sampling, data analysis, and data inference), but it also involves the qualitative data collection, like coding of respondents drawing interventions and open questions.

3.2.1 Quantitative analysis

The purpose of this study was to measure environmental attitudes on the development of the common area of the Mura and Drava Rivers in the trans-border area of Slovenia, Hungary and Croatia. The research was undertaken with the hypothesis that a large number of respondents, in accordance with their age, would confirm the proecological position of the younger population as confirmed on a global (Dunlap et al. 2000) and regional level (Šundalić and Pavić, 2007; Butula 2003, 2009; Cifrić 2008.; Kantar et al. 2009). The usual division into anthropocentrics and ecocentrics varies frequently in studies in the manner that the categories are added or divided, as shown in the following studies: Stern and Dietz (1994) and Thompson and Barton (1994) with an egoistic/altruistic division in the anthropocentric orientation, Kaltenborg and Bjerke (2002) with the notion of environmental apathy, van der Windt et al. (2007) with a strong and weak anthropocentric and Cifrić (2008) with a technocentric orientation. The total sample was divided by a factor analysis into three clusters defined

as ecocentric, anthropocentric-egoistic and anthropocentric-altruistic and was tested for eight items derived from the attitude research on the representative sample of Croatia by Cifrić (2008) and the added items researched in the pilot study. It was supposed that the scenarios were the presenters of particular paradigms so that Restoration was paired with Biocentrism, Outdoor recreation and Tourism and Settlement with anthropocentric-egoistic and anthropocentric-altruistic components and Energy Production Scenario with Anthropocentric Egoistic Frame. Intrinsic and extrinsic motivational orientations, as well as gender, did not show any statistically relevant indicators so that the results were not interpreted.

In the case of grouping the complete dataset in different paradigm clusters, a factor analysis was performed using the principal components analysis with varimax rotation. The Guttman-Kaiser criterion for stopping the extraction at the value one was applied. The value of 0,40 was taken as a criterion for the value of the saturation factor.

SPSS 15.0 was used for descriptive statistics, χ^2 – testing and ANOVA. To determine the relationship between the indicated variables bivariate correlations were used. In the case of the ordinal scale, variables were calculated by Spearman's Rho Correlation Coefficient and the Pearson correlation coefficient interval. In order to identify the direction of the relationship for each indicator individually, a correlation analysis was conducted for the images and other scales measured by significant values ($p<0.01$, $p<0.05$). A χ^2 test was used for selecting the worst/best scenes because it is a dichotomous situation. For testing the differences in vista ranking, since it is a case of ordinal variables, two non-parametric tests were used. Since the samples are independent, the following tests were used:
- for two groups (e.g. students/experts): Mann–Whitney U test
- for three groups (e.g. Hard/Soft/Art): Kruskal-Wallis H test

3.2.2 Qualitative analysis

Two questions from the framework Attachment to the river refer to the frequency of the respondent's visits to the river and to the identification of the manner of spending time at the river. The option was offered of entering an unlisted activity. The results were checked and analysed descriptively using the method of content analysis. Since the majority of the answers were compatible with the options suggested, and neither of the functions was significant, an overview of the activities was provided. The instrument posed an open type question which investigated the respondent's memory regarding his/her last visit to the river. After having checked the answers for the first time they were coded into four groups: nature, water, action and emotion. The answers were statistically analysed and presented in tables.

3.3Selection of river landscapes

Thirty-seven points along the Mura and Drava River were photographed during three visits to the river streams during October 2010 when the river flow was closest to a year average flow (see Table 19) as the flow was not a planned variable (see Brown and Daniel, 1991).

Preglednica 19: Podatki o Muri in Dravi v obdobju med letoma 1961–2005 in oktobra 2010
Table 19: Data on the Mura and Drava River flow for the period 1961-2005 and October 2010

		October 2010.		October 1961-2005.	
River	**Station**	Qaverage	nQ average	sQaverage	vQ average
Mura	**Mursko Središće**	154	65,8	151	346
Drava	**Botovo**	473	239	484	1075

Meteorological and hydrological bulletin 10/2010, Hydro-meteorological Institute Republic of Croatia

Photo points were picked up on the criteria of accessibility (according to Purcell and Lamb, 1998). All locations are accessible from roads, unpaved roads, agricultural and fishermen's paths. There have been many studies of this issue (e.g.;Daniel and Boster, 1979) and the overall finding is that if the photographs meet certain criteria then the ratings gained from them will not differ significantly from ratings gained in a field situation. Lothian (2012) points out the following criteria for photographs:

- Standardised horizontal format
- 50 mm focal length to correspond with human vision
- Colour photographs
- Non-artistic composition
- Sunny cloud-free conditions
- Avoid strong side lighting of early morning or evening
- Good lateral and foreground context to scenes
- Single landscape unit per photograph
- Typical representative scenes, not anomalies
- Full landscape view, avoid close ups
- Avoid distracting and transitory features including animals, homes, fences and people

As it became evident that the size of a water body is a significant variable for perceived beauty, the amount of water surface in chosen photographs varies between 22 and 43 percent (see Ryan, 1998). The order of original vistas was selected to show an increasing human influence from none (a natural scene) to maximum (a pedestrian bridge in the scene).

The vistas selected (Figure 29) represent a typical landscape of the Mura and Drava which does not stand out from other landscapes of lowland rivers. During selection, special attention was paid to balancing the display of the water body, lack of scenicity, presence of elements, visibility from both river banks, the possibility of implementation of modifying elements (residential, traffic infrastructure and hydro power plants) and the lack of presence of humans and animals in the picture. A rural character of the area immediately next to the river can be assumed, but it is not visually dominant since along its edge there is a stretch of high coppice.

The first location is that of the Drava River near Podturen with a completely natural scene. The scene presents the river water body, high vegetation and wood deposit, all of which witnesses the lack of human intervention (a note on wood deposits can be found in Le Lay et al., 2005). This vista is the most typical river scene of the Mura and Drava which does not stand out from the scenes of other lowland rivers.

The second location also represents the Drava in close vicinity of Podturen, but it contains a scene of a small ferry in the background. The docks on both sides are formed by raw wooden lumber. The river bank is natural, not fortified and presents a location where human influence is oriented to the water section of the river. What pervades is high vegetation, river plants and naturally formed water edge.

The third location reperesents a scene of moderate human impact at the confluence of the Mura in the Drava near Legrad. The infrastructure indicates the function of leisure and recreation (beach, slide). There are some vessels in the backround (gravel transport) There is high vegetation and a pebbled beach in the scene.

The vista with a mill on the Mura represents a scene with an element of cultural heritage .The meaning of a mill as a national symbol for Croats and Slovenes has not been studied, but this research proved that perception with a number of respondents. Besides the object on the water, there is a white access road, a designed access plateau and high vegetation in the scene. The contact between the water and the bank is natural.

The scene showing major human influence represents a ferry for transporting vehicles and passengers at Križnica on the Drava. There is a regulated and fortified contact zone of water and the bank in the scene, the access road infrastructure and evident removal of high vegetation in immediate vicinity. There is a boat and public illumination in the scene.

The strongest human impact in the series is presented in the scene of the pedestrian bridge at Križnica. The picture shows a visible bridge construction and a concrete access to water with a ferry berth. The bridge element and the bank design represent the strongest human impact on the Mura and Drava locations situated outside of residential areas.

Slika 29: Izbrane scene Mure in Drave
Figure 29 Selected Vistas of the Mura and Drava Rivers

The vistas were selected by the author after having discussed them with the advisor.

3.4 International sample

3.4.1 Student sample

The aim of the survey was to involve a diversified sample, in order to include the international and interest affiliation variation. The study utilized a convenience sample of the undergraduate student

population. Studying students' attitudes is important, as they are the population who will be affected by and will have to provide solutions to the environmental problems. Several studies found this sample adequate for environmental research (Herzog 1985, Kaplan, Herbert 1987, Chenovet, Gobster 1990; Kaur et.al 2004). By choosing young people for environmental research, we are asking future generations to participate in sustainability of solutions nowadays. Older persons in much of the world give higher priority to materialist vs. post-materialist values than younger people as a confirmation that in adolescence people form values which change little thereafter. (Inglehart, 1997, cited in Schwartz, 2006).

Preglednica 20: Družbeno-demografske značilnosti anketirancev (študenti) del1
Table 20: Socio-demographic characteristics of the survey respondents (students) part1

Gender	%	Age(year)	%	Type Of Community Of Living	%
Male	36,1	16-19	12,3	a big city	26,7
		20-25	82,1	the suburbs or outskirts of a big city	13,2
		26-30	2,4	a town or a small city	25,2
Female	62,7	31-35	1,7	a country village	31,4
		> 35	0,9	a farm or home in the country	1,9
NR	1,2		0,7		1,7

The participants represent the young population (Table 20), 82,1% of them from 20 to 25, 12,3% from 16 to 19, 2,4% from 16 to 30, 1,7% from 31 to 35 and just 0,9% are older than 35. The questionnaire gathered data on the respondent's place of birth, classified as a big town, a suburb, a small town, a village and a house in the countryside. The answers represent the population almost equally distributed in the main categories. This was shown as relavent for the attitudes to environmental protection (Tress and Tress, 2003; Buijs et al. 2009; Sevenant and Antrop 2010) but not relevant to restoration (Junker and Buchecker, 2008). According to the fact that sampled universities are situated in the cities that have a river, all respondents had equal everyday exposure to the river area (see Ryan 1998) although a different character and relation to the town.

An anonymous questionnaire was administered to students chosen by the criteria of different ethnicity and enrolment in different academic disciplines. A total of 410 students (262 female and 148 male students) were involved, from three universities – the University on Ljubljana, Slovenia; Kaposvar University, Hungary, and the University of J.J. Strossmayer in Osijek, Croatia. All three university cities lie on the river, Ljubljana on the Ljubljanica River, Kaposvar on the Kapos River and Osijek on the Drava River. The number of students from different countries was balanced: 122 from Slovenia, 139 from Hungary and 149 Croatian students participated in the survey. Respondent groups were planned according to the disciplines. The distribution of respondents is given in Table 21.

Preglednica 21: Družbeno-demografske značilnosti anketirancev (študenti) del2
Table 21: Socio-demographic characteristics of the survey respondents (students) part2

Nationality/Discipline	HARD	SOFT	ART
Slovenian	86	24	15
Hungarian	50	71	15
Croatian	70	41	12

Schwartz (2006) studied the different relations in values at the value level considering age, education, religiosity, major subject of study, political orientation, use of alcohol, use of mobile phones etc. Since the values we research belong content-wise to the value Universalism, Power and Tradition we followed the results used by Schwartz to confirm the correlation of those values with age and education for all three higher order values as well as for Religiosity. Studying the influence of the major subject of study dimension, Schwartz (2006) divided the major subject of study into Economics and Humanities. He established their correlation with the values of Tradition, Power and Achievement (2006). Those were the results used to guideline the forming of stakeholders and for disciplines or major subject of study for which it was assumed they would show the differences in evaluating the transformation of the river landscape (Table 21). Respondents' distribution for the data on nationality and religion is given in Table 22.

Preglednica 22: Družbeno-demografske značilnosti anketirancev (študenti) del3
Table 22: Socio-demographic characteristics of the survey respondents (students) part3

Nationality	%	Ethnicity	%	Religion	%
Croatian	38,2	Albanian	0,2	Catholic	75,5
Croatian And Hungarian	0,2	Bosnian	0,0	Orthodox	0,7
Croatian And Slovenian	0,2	Czech	0,2	Protestant	3,1
Hungarian	32,3	Croatian	36,1	Islam	0,2
Slovenian	28,1	Hungarian	30,9	Atheist	14,6
Romanian	0,2	Croatian And Hungarian	0,2	Something Else	3,4
		German	0,2		
		Slovenian	26,9		
		Serbian	0,7		
NR	0,7		4,5		1,7

3.4.2 Expert sample

The expert sample was observed as a unique group. There were forty-one experts participating in the survey. The national distribution of respondents is as follows: 27 experts from Croatia, 9 from Hungary and 15 from Slovenia. The experts connected to river area planning make up a multidisciplinary set of theoreticians and practitioners of an international scope. The disciplines included are: spatial planners, urban planners, architects, civil engineers of a hydro technical profile,

landscape planners, biologists, urban sociologists and economy experts involved in spatial planning. As for their place of work, the experts participating in the survey work at higher education institutions, public institutions and private firms.

3.5. Frames of the survey

The instrument is created as a visual and written part of the survey, with four out of five investigated frames of questions. Table 23 provides an overview of the questions for each frame.

Preglednica 23: Število izjav v raziskavah glede na okvirje
Table 23: Number of items in survey frames

Frame	No of items or questions in survey
Environment value orientations	8
Resources for planning river landscape and flood risk management	26
Attachment to the river	10
Policy preferences and authorities	16
Intrinsic and Extrinsic motivational orientations	8
Health personal involvement	2

3.6 Resources for planning river landscape and flood risk management

In the frame of environmental orientations an initial research was done on the respondent's attitudes related to the preference of elements in the river area which were construed according to the development and protection group of evaluation within the planning process (according to Marušić, 1991). The distribution of concepts for questions 11 and 12 is given in Table 24.

Preglednica 24: Viri za načrtovanje rečne krajine (Marušič, 1991).
Table 24: Resources for planning a river landscape (Marušič, 1991).

Protection objective	Common ground	Development objective
protection of birds' natural habitats	scientific knowledge of the area	building of hydro power plants for the production of electric power
scenic beauty	flood protection	greater accessibility of the river
intact nature	protection of autochthonous architecture	building holiday settlements
		development of tourist facilities
		development of agricultural activities
		fish farming

In the written part of the survey we further researched the connection between the evaluation of the visual and the ecological value of a river landscape. We attempted to use the instrument in order to investigate the evaluation of concepts in the visual and the written part and we also researched the attitudes on the acceptability of the actors in the river area. We also studied the acceptability of the

most frequent types of hydro technological activities with the objective of flood protection, which were also simulated as a variable in the visual part of the survey.

3.7 The connection of the ecological and the visual – structural simulations

The research in the visual part of the survey was construed with the help of several research questions:

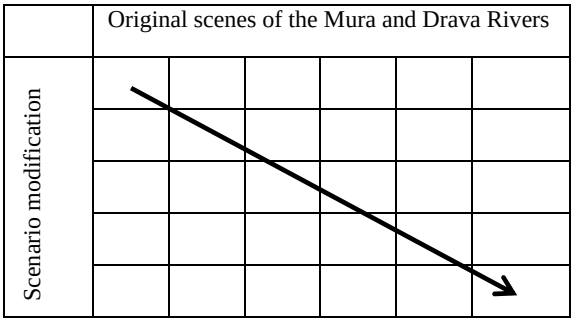
Does the intensity of human impact in the initial vista influence the acceptability of a particular scenario?
Which river development scenarios are acceptable?
Why? Which elements in each vista are evaluated as positive and which as negative?
What is the relation of vistas to environmental orientations?

Initial vistas were ranked according to the intensity of human influence (Figure 30 and Figure 31):

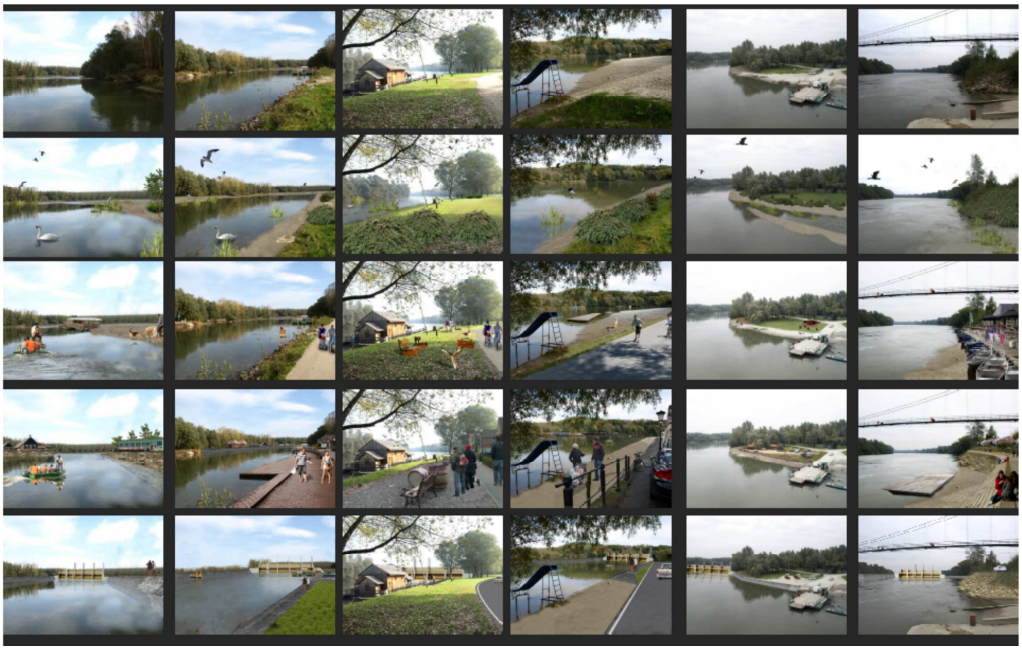
1. A completely natural vista
2. A ferry for transporting people, natural, non-fortified bank
3. A wooden mill on the water, partially arranged access
4. Pebbled beach with a slide
5. A ferry for transporting people and cars, regulated bank
6. Pedestrian, suspension bridge, a concrete access to water

The scenarios were also construed through an increase in human impact as (Figure 30 and Figure 31):

1. Restoration
2. Outdoor Recreation And Tourism
3. Settlement Scenario
4. Energy Production Scenario



Slika 30: Shema vizualizacije človeškega vpliva
Figure 30 Schema of visualizing human impact

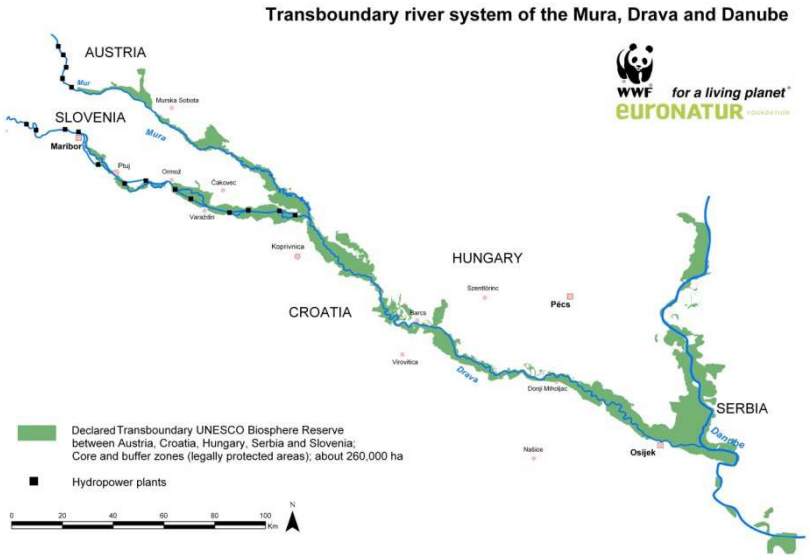


Slika 31: Začetne scene in scenariji
Figure 31: Original Vistas and Scenarios

The term scenario is used to describe a form that is a process of prediction through several steps, which results in the text of paragraph length or longer (Schnaars and Ziamou, 2001). Different types of scenario construction were studied in order to legitimise predictions such as historical and holistic (Emmelin 1996; Palang 2000; Stenseke 2009) and normative approaches (Van den Berg and Veenklaas 1995; Sheppard 2001; Palmer and Hoffman 2001; Nassauer and Corry 2004;Westhoek et al. 2006). Tress and Tress (2003) restrict the concept of scenario approach in their research by referring to the definition of Van den Berg and Veenklaas (1995) and interpret the scenario as a form that does not represent the most likely future condition or prognosis or prediction of the state. The same concept was applied in a survey on agricultural landscapes by Lindborg et al. (2009). In the present study, as well as in the former examples, the focus is put on “what would happen if,” rather than “what will happen.” The vistas describe a one-dimensional development, which is usually not a realistic case. For example, tourist facilities could also be combined with the development of housing but the views are mono functional in order to obtain clearer responses from the respondents.

Preglednica 25: Seznam programov in projektov, vključenih v pisno obliko scenarija
Table 25: List of programmes and projects included in scenario writing

Programme	Name	Period	Themes
Documents	Drava Declaration	2008	flood protection, river restoration, cross-border recreation area, ecological quality
	Ministerial Declaration on the preparation of the establishment of the "Mura-Drava-Danube Transboundary Biosphere Reserve"	2011	transnational cooperation conservation and restoration of natural and semi-natural ecosystem co-operation with local communities sustainable development
LIFE	Upper Drava-River Valley	1999 – 2003	natural flood protection
	River Management Of The Inner River Mura	2003 - 2007	river widening preservation or re-establishment of natural habitats
	Murerleben II	2010-2015	restoration, improvement and long-term protection of the natural wetland forests and river landscape
	Lifeline Upper Drava	2006 – 2011	river widening development of local recreation and tourism monitoring
SEE	NATREG	2011	development of tourist locations
	DRA-MUR-CI	2011-	cross-border flood risk management re-evaluation of the nature
CADSES Interreg IIIb	Drava River Basin	2003-2006	water and waste management
IPA HU HR	Measure 1.2 Sustainable Tourism and Mura-Drava-Danube River Area	2007-2013	open call



Slika 32: Donava-Drava-Mura Zemljevid UNESCO Rezerve Biosfere za zaščito narave in divjih živali vzdolž rek Mure, Drave in Donave (http://wwf.panda.org/, pridobljeno 20.03.2012.).
Figure 32: Danube-Drava-Mura Map UNESCO Biosphere Reserve to protect their shared nature and wildlife along the Mura, Drava and Danube Rivers (http://wwf.panda.org/, accessed on 20.03.2012).

According to the revised themes in regional projects with the focus on the Mura and Drava (see Table 25), four mono functional scenarios were developed. The photographs were altered with the help of four variables (Figure 33): the range of vegetation, the contact zone between the river and the bank (edge), the actors and infrastructure. The photographs were taken by a digital camera, 14-42mm objectives, 10MP and manipulated in Photoshop PS.

Preglednica 26. Neodvisne spremenljivke v scenarijih
Table 26 Independent variables in scenarios

	Scenario			
	Restoration For Retention	**Outdoor Recreation And Tourism**	**Settlement**	**Energy Production**
Variables				
1. **Vegetation**	increased	slightly decreased in direction of cultivation	decreased	decreased
	high trees, coppice	high trees, semi-natural grassland	semi-natural grassland, gardens	semi-natural grassland
2. **Contact Zone River Bank**	widening river bed gravel and river stones	existing edge	paved with brick or natural stone	paved with concrete prefabricated elements
3. **Actors**	wild animals	tourists, sportsmen, children, senior, pets, wild animals	family, local residents, pets	Workers
4. **Infrastructure**	none	pathway for cycling, horse riding, walking tourist label, bench	road, houses, bench	road, hydropower plant

Slika 33: Spremenljivke v scenarijih (1-vegetacija, 2 - kontakt območje reke, 3-igralci, 4-infrastruktura)
Figure 33: Variables varied in scenarios (1-vegetation, 2- contact zone river bank, 3-actors, 4-infrastructure)

Restoration scenario

The restoration scenario illustrates a change of the river area in order to increase the range of natural elements (vegetation and animals) and also to provide an overflow of water in the nearby area. The photomontage involves removing the elements of human influence as well as decreasing the amount of high vegetation and appearance of shrub and coppice along the water edge. The presence of animals, swans and other river birds, were also included to increase the vividness of the scene. Widening of the river bed is manipulated according to a case study of the regulation of the Kocher River in Schwäbisch Hall (Schmid 1985) and also to the case studies of "Lifeline Upper Drava" (LIFE Drau Laymans Report 2011). The vistas did not include any presence of humans or human influence. Some vistas had to be radically changed, when compared to the original one, like removing the pedestrian bridge or the ferry port.

Outdoor recreation and tourism scenario

This scenario was the easiest to imagine and to collect the inputs for scenario content, since a long list of projects (Table 25) foresee this scenario for the lower stream of the Mura and Drava. The planned outdoor activities included walking, cycling, fishing, horse riding, all of which do not require a hard but a soft traffic infrastructure. The paths are visualized as unpaved, without a defined edge. The tourist facilities such as a children's playground, benches, informative labels and pontoons are designed as wooden and environmentally friendly. The scene contained dogs and horses, together with humans. Reflections on sustainability of the scenario also included social issues and the actors in the scenes were selected according to age equality (children, adults and older people).

Settlement scenario

This was the most questionable scenario because Slovenians and Hungarians do not have dense settlement locations along the Mura and Drava Rivers as opposed to the Croatian examples. Nonetheless, the scenario was chosen to investigate the attitudes on the increase of occasional housing. As the study area has lots of protected surfaces, there is a conflict between protection and the existing illegal cottages. The lack of information and statistics on the extent of this phenomenon is a major problem. Visualization presented a continuous line of medium sized family houses, which have been designed under the consideration of flood risk (on pillars) and linked to the infrastructure that aids housing, such as a road and a pedestrian path. Original vegetation was decreased to suit the building needs and gardens and lawn were visualized. The actors in the scene represent families in everyday situations.

Energy production scenario

Although it is not a subject of the cross-border projects and documents, the multiple cross-border conflict imposed the energy production scenario as relevant for studying attitudes. The design of the

hydropower plant followed an existing design of the future plant on the Mura in Graz, as presented in the public media. The water's edge was constructed of prefabricated concrete blocks. The vegetation was decreased in line to enable retention of water and the actors posed as male observers. A small hydro electrical plant is accessible by road and there is a car in the scene.

The evaluation of the best and the worst images was conceived in the manner that the students evaluated all images simultaneously and selected the best and the worst by inspecting all thirty images. The students saw all photos on two occasions, when they were projected on the wall at the beginning and at the end of the introduction to the survey. They were put six sheets of paper in the A4 format in order, one next to the other, for a total display of all images. They had to choose the three best and the three worst solutions for the observed areas. The next evaluation of the images was done by ranking the scenarios in the frame of the modification of the original vista. An A4 sheet displayed the scenarios in the following order: original vista, Scenario Restoration, Outdoor recreation and Tourism, Settlement Scenario and Energy production Scenario. The ranking instrument was chosen because of the expected small range of grades between the scenarios where the variables where altered to a smaller degree. The aim was to get the results which present more transparent attitudes. The next level of the instrument in processing images was a graphic intervention in the image. The respondents were asked to circle the elements they considered positive and to cross out those elements they considered negative and which influence their judgment. It was assumed that for the positive and the negative elements there would be a frame which would be a result of the variables of image alternations and that the graphic comments are identical with the variables. The respondents were asked to provide an additional element – to draw in the elements which would improve the situation in the vista. There was a low expectancy for the results with this element, but the added elements were also imported in the system of variables. It was an attempt to apply the critique by Arthur et al. (1977) in investigating why the image was evaluated as it was. The third level required a commentary which assumes the most distinct idea the respondent connects with the image. The comments were not processed according to the previous frame but were processed statistically and according to the content descriptively.

It was assumed that the respondents would recognize the pre-ecological dimension in the Restoration Scenario and in line with that evaluate it as the most positive one. It is expected that there would be a reaction to the scene with the bridge as a necessary element, so a negative reaction is anticipated regarding its elimination, as well as in the case of the mill as cultural heritage. We assume that there would be a better ranking of minor human influence and evaluation of a natural landscape as more vulnerable. It is also expected that the already existing human influence would have impact on the greater acceptability of a higher human influence, so that the bridge scene would be more acceptable with a hydro power plant than a completely natural environment with a hydro power plant. It is

expected that the respondents would evaluate the scenes according to their ecological transformation, rather than the aesthetic one.

By analysing the parts of the instrument we shall compare the cognitive and the visual evaluation. It is hypothesized that at the level of expressing attitudes with the written instrument, the respondents would express less pronounced pro-ecological attitudes than with the visual questionnaire. The assumption is that the affective component of the attitude would be more enhanced by the visual materials and that the respondents would express their pro-ecological attitudes more strongly.

3.9 Policy preferences in river management and authorities

Inglehart and Welzel (2005) consider that the cause of the total social change is in the cultural, economic and political change. There has also been evident improvement in the form of an inter-generational change from the materialistic to post materialistic values, which leads to the increased potential for mass participation in actions against the leading subjects. Their theory claims that the increasing rates in actions against the elites presents the component of a transition from the value of survival to expressive values. Due to the differences in the location of the observed three countries it is expected that in relation to Survival vs. Expressive values there would be a different level of confidence in different decision-making actors and in water body management. In three questions the frame researched confidence, the attitude to responsibility and the attitude to international agreements as forms of managing trans-border rivers. The influence of the respondents' attitudes toward the subjects of planning, toward non-conventional and participant forms of involvement in decision-making and management was the backbone of the frame Policy preferences. It is assumed that Hungary and Croatia, as countries with a lower GDP, would expect greater aid and responsibility from the countries with a higher GDP. The choice of the subjects in the instrument reflected the stakeholders identified by Orr et al. (2007) and Wostl (2002) provided in Table 27.

Preglednica 27: Interesni akterji v procesu načrtovanja rečnega prostora (po Orr et al. (2007) in Wostl (2002)
Table 27: Stakeholders in the process of planning the river area (according to Orr et al. (2007) and Wostl (2002)

Author	Stakeholders
Wostl (2002)	authorities, engineers, environmental protection groups, insurance companies, house owners, agriculture, shipping industry
Orr et. al (2007)	agencies and institutions, public and private sector organizations, NGOs, academics, industries, insurance, business, conservation organization, residents, landowners, visitors from outside area

We also researched the support to international cooperation in planning and managing river areas. Due to the long-standing trans boundary cooperation, it was expected that positive attitudes already exist

there. The cooperation between Austria and Slovenia on the Drava and Mura Rivers dates back to 1954 (Slovenia was then within the state of Yugoslavia) and covers all issues that might have a negative effect on the rivers. There is a permanent Austrian – Slovenian Commission dealing with all related issues. A Croatian - Hungarian Water Management Commission has been created under the "Agreement on Water Management Relations" signed by the two countries in 1994. Sub commissions have been set up among others for Drava and Danube water management. There is also an agreement between Slovenia and Hungary. The 1996 agreement between Slovenia and Croatia also covers water resources in the Drava and Mura basins (ECE/MP.WAT/2009/8). A project has been developed by Croatia for the preparation of an Integrated River Basin Management Plan for the Drava River.

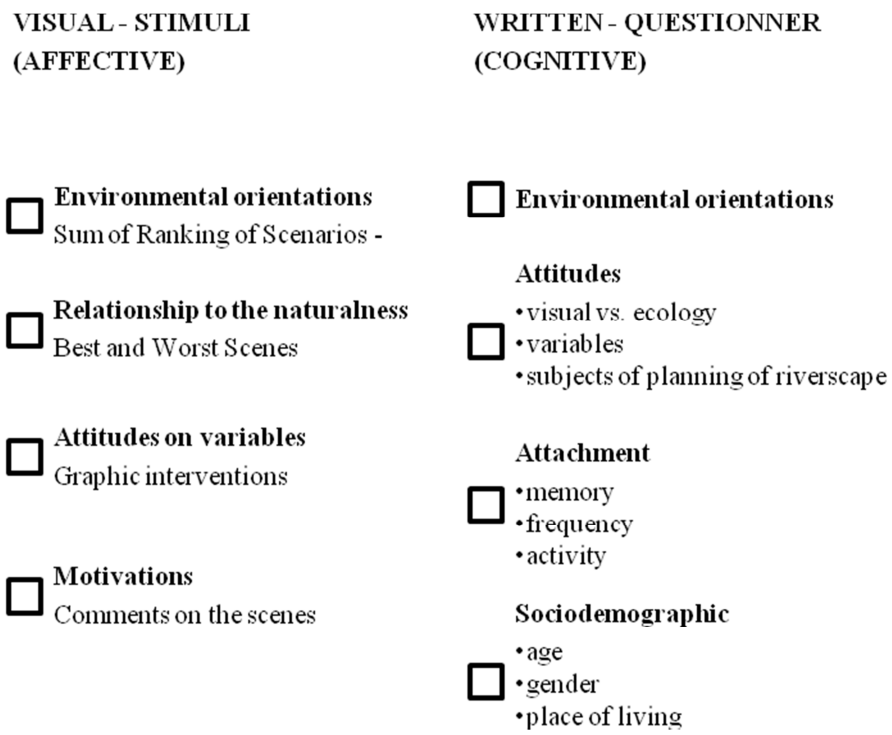
3.10 Survey instrument and procedure

This study aimed to collect as much information as possible on a cross-cultural level in order to detect correlations between respondents' basic environmental attitudes, scenic perception and attitudes toward future use of the riverbed area. In a pilot research questionnaire, the survey lasted one hour and the results pointed to a low amount of answers in the last part of the questionnaire. The lessons from the pilot research also showed that the sequence of the survey, consisting of two parts, should be changed so that the visualization precedes the written part. After the revision, the visualizations came first, as stimuli, and after that the respondents answered the second, written part of the questionnaire which ended with questions on demographic data.

An introduction letter (Appendix 1) was attached to the questionnaire and was also read to the audience in advance. During the introduction, all images were displayed on the wall, each for 7-10 seconds, and one by one with an explanation of the protocol scenario**.** At the end of the introduction all images were displayed again, more quickly, for ten seconds each. The questionnaire consisted of two distinctive parts (see Figure 34). The first part consisted of six sets of original images plus four photo montages of the planned scenarios, a total of 30 scenes. Respondents ranked the images in the questionnaire. Five photographs were printed on an A4 sheet and then grouped as Original, Restoration Scenario Scene, Outdoor Recreation and Tourism Scenario Scene, Settlement Scenario Scene and Energy Production Scenario Scene. The filling in of the questionnaires lasted from 35 to 45 minutes.

A six-page-long-second part of the questionnaire was developed in order to measure environmental attitudes, values, self-reported pro-environmental behaviours, and demographics. Environmental attitudes were assessed within three scales. The first was the ecocentric and the second was defined as the anthropocentric environmental attitude, subdivided into two subscales as anthropocentric-egoistic and anthropocentric-altruistic (Schultz and Zelezny 1999). The responses were made on a 5-point

Likert scale ranging from *strongly agrees* to *strongly disagree* with an added *don't know, don't want to answer* opinion. There were also open questions on memories, the river last visited etc. that were coded into clusters and linked to the frame attachment. The dimension of printed images was 6,00 x 8,00 cm in 320 dpi resolution since it had proven adequate in prior studies (Junker and Buchecker, 2008).



Slika 34: Koncept instrumenta
Figure 34: Concept of the instrument

4 RESULTS AND RESULTS ANALYSIS

4.1 The attitude of the total student sample on the design of the Mura and Drava river bank area

4.1.1 Environment value orientations

Spatial problems are perceived on the scale from being underestimated to being overrated. The research of attitudes in this study was not conducted with an aim of establishing the reality of attitudes in relation to the environmental problems, but to investigate opinions which shape the behaviour or influence the design of spatial solutions and spatial policies.

It was assumed that the total sample of respondents would be distributed into three clusters defined as ecocentric, anthropocentric-egoistic and anthropocentric-altruistic. The distribution into anthropocentric-egoistic and anthropocentric-altruistic was an attempt at differentiating two groups within the anthropocentric population by taking into consideration the attitude of respondents in relation to the whole environment and to research the differences in the preference for the river landscape and the attitudes to river landscape management. In the case of grouping the complete dataset in different paradigm clusters, a factor analysis was performed using principal components analysis with varimax rotation. The Guttman-Kaiser criterion for stopping the extraction at the value one was applied. The value of 0,40 was taken as a criterion for the value of the saturation factor(see Table 30).

From the questions on the relation between people, nature, culture and technology, as shown in Table 28, it is visible that there is a distribution of results into items, expressed in percentages, arithmetic means, standard deviation and number of respondents. In the analysis of the results two aspects were pointed out: general features of frequency distribution (Table 28) and the most and the least acceptable claims (Table 29). Since there are no inverse items, we can observe high values of disagreement (1+2) and low values of agreement (3+4) for the three items related to the anthropocentric character (q2.1, q2.5 and q2.6). The opposite tendency is observed in the result distribution where there are high values of disagreement and low values of agreement (q2.2, q2.3, q2.7 and q2.8). Both distribution types are extremely asymmetric. Also observed was a high percentage of the answer "*neither agree nor disagree*", chosen by insecure respondents who make up 20,8% on average for the set of questions on the basic attitude of man toward nature, culture and technology. The respondents express their uncertainty about the item which puts into the relation man and technology. An even greater percentage of uncertainty is shown by items relating man and landscape (q2.3 and q2.5). Certain answers are given by respondents to claims which define the relationship of man and nature in the domain of ecology and the visual (q2.1, q2.7 and q2.8). Cumulative results show that young respondents gave positive answers to items which originate in value frames of a higher order for

Benevolence and Universalism, which according to Schwartz (1984) indicate the presumed ecocentric orientation.

Results in Table 29 show that the best accepted items were those related to the concept of ecology and aesthetics. The highest acceptance of these items is in favour of the claim that in the value system they are on a higher hierarchical position, so it is assumed that they are motivationally most intensive.

Preglednica 28: Porazdelitev odgovorov na vprašanje o odnosih med ljudmi, naravo, kulturo in tehnologijo
Table 28: Distribution of answers on the question on the relation between nature, technology, man and culture.

Q2. The following claims express your attitudes on the relation between nature, technology, man and culture. To which degree do you agree with the following claims?

		1	2	3	4	5	M	SD	N
1.	Man is the absolute master of nature in which he lives and he may treat it according to his free will	53,5	23,8	13,0	6,6	2,1	1,79	1,043	420
2.	The development of technical solutions brings to the human kind some new advantages and pleasures	2,4	9,9	27,8	47,2	12,3	3,57	0,913	422
3.	If the landscape is preserved and authentic, the culture of the inhabitants of the area is more advanced, too	3,5	12,3	28,5	33,7	20,0	3,56	1,060	416
4.	Rivers connect both physically and culturally the areas they flow through	1,4%	13,2	17,5	40,8	25,2	3,77	1,025	416
5.	A river should serve man only for relaxation, recreation and enjoying the view	23,1	31,6	22,6	16,3	5,4	2,49	1,173	420
6.	Today the man completely controls even the most advanced technology and thus prevents possible disasters	30,9	32,5	22,4	11,6	1,2	2,18	1,042	418
7.	Nature preservation has precedence over all other tasks of the society	0,2	5,9	16,0	40,8	35,6	4,07	0,884	418
8.	Towns through which a river flows are more beautiful than those towns which don't have a river	7,1	5,7	18,6	30,0	37,0	3,86	1,194	417

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score, SD-standard deviation; N –number of respondents
*The items are taken from the survey in the project "Modernisation and identity of Croatian society. Social and cultural integration and development" (130-1301180-0915)

Schwartz (2002) claims that the higher a priority of a value, the more it is possible that people will undertake action which may lead to its expression in behaviour. The importance of a value increases the consistency in behaviour. The link between values and behaviour was studied by Nordlund (2002) whose results showed that general values transcend into environmental values which affect the personal norm and proecological behaviour. Further research put the answer results for question 2 into correlation with other attitudes in order to research their connection and and relation to items in other frameworks. .

Preglednica 29: Najmanjše in največje sprejete izjave na vprašanje št.2
Table 29: The most and the least acceptable items for Question No2

Least acceptable	Most acceptable
Man is the absolute master of nature in which he lives and he may treat it according to his free will	Nature preservation has precedence to all other tasks of the society
Today technology is controlled completely by man and thus possible accidents are prevented	Towns through which a river flows are more beautiful than those towns which don't have a river

Since the claims originated in environmental orientation frames, the instrument was tested by factor loadings. Three factors were established which present the assumed orientations, as provided in Table 30.

Preglednica 30: Faktorska analiza v povezavi z okoljskimi smernicami
Table 30: Factor loadings of the varimax rotated factor analysis on environmental orientations

	Anthropocentric Egoistic	**Ecocentric**	**Anthropocentric Altruistic**
Man is the absolute master of nature in which he lives and he may treat it according to his free will *	.730		
The development of technical solutions brings to the human kind some new advantages and pleasures*	.688		
If a landscape is preserved and authentic the culture of its inhabitants is more advanced, too		.664	
The river should serve the man only for relaxation, recreation and enjoying a nice view			.821
Today the man completely controls even the most advanced technology and thus prevents possible disasters*	.498		.524
Nature preservation has precedence over all other tasks of the society *		.584	

The distribution of respondents considering the defined orientations is provided in Table 31. It can be concluded that the group of young respondents is heterogeneous and leveled regarding environmental orientations. The majority of the respondents belong the the Anthropocentric-altruistic group (36,1%), and the least numerous are those in the Anthropocentric-egoistic group (28,8%). A large percentage of respondents expressed anthropocentric attitudes (64,9 %) as opposed to those who expressed ecocentric attitudes (35,1%). This can be explained by the character of the concept Anthropocentric-altruistic which covers the expansion of the moral subject from *I* to *we* and is in accordance with comprehending the scope of the moral subject, but not with the area of responsibility. ''Egoistic environmental attitudes are based on beliefs about the effect that environmental destruction may have on the individual. Thus, the environment should be protected because I don't want to breathe polluted air, or I don't want to drink dirty water'' (Schultz and Zelezny, 1999). It has been found that egoistic environmental concerns are positively correlated with self-enhancement (enhancing one's own personal interests) and negatively correlated with self-transcendence (transcending one's selfish concerns and contributing to the well-being of others) (Schultz and Zelezny, 1999). Social altruistic concerns are based on goals or benefits to humans. Altruistic environmental concerns are similar for

those found for biospheric concerns. Altruistic concerns have been found to be negatively correlated with self-enhancement and positively correlated with self-transcendence (Schultz and Zelezny, 1999).

Preglednica 31: Porazdelitev vzorca v skladu z usmeritvami glede na okolje
Table 31: Distribution of the sample according to environmental orientations

Cluster	%	N
Ecocentric	35,1	138
Anthropocentric Egoistic	28,8	113
Anthropocentric Altruistic	36,1	142
Total		393

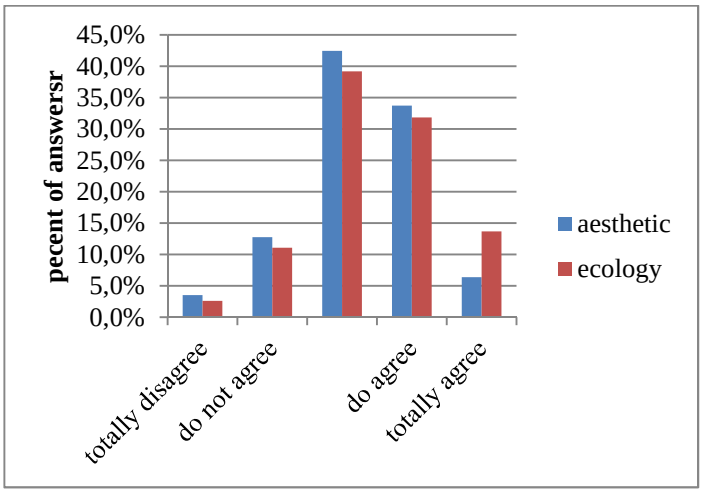
The distribution of environmental orientations according to gender is provided in Table 32 and points to the fact that female respondents have a higher tendency of ecocentric attitudes (40,2%) as well as of anthropocentric altruistic ones (35,3%), whereas they were represented the least in the anthropocentric egoistic cluster (24,5%). Male respondents are represented more in anthropocentric clusters in which they were equally distributed (36,1% anthropocentric egoistic and 37,5% anthropocentric altruistic). They were somewhat less represented in the ecocentric cluster (26,4%).

Preglednica 32: Porazdelitev vzorca v okoljsko usmeritev glede na spol
Table 32: Distribution of the sample of environmental orientations according to gender

			male	female	Total
Clusters	**Ecocentric**	**N**	38	100	138
		% Cluster	27,5	72,5	100,0
		% Total Sample	26,4	40,2	35,1
	Anthropocentric egoistic	**N**	52	61	113
		% Cluster	46,0	54,0	100,0
		% Total Sample	36,1	24,5	28,8
	Anthropocentric altruistic	**N**	54	88	142
		% Cluster	38,0	62,0	100,0
		% Total Sample	37,5	35,3	36,1
Total		**N**	144	249	393
		% Cluster	36,6	63,4	100,0
		% Total Sample	100,0	100,0	100,0

4.1.2 Resources for planning the river landscape

The following questions studied the respondents' attitudes on desired and acceptable users of areas along waters, on the allocation of the river landscape and on the attitude to predictors of their future allocation. The first dichotomy concerns the aesthetics and protection poles. The respondents evaluated the following attitudes: the river landscape is more beautiful than other landscapes (aesthetics): the river landscape should be protected more than other landscapes (ecology). The distribution of results is similar for both items. The respondents were dominantly undecided on these two claims, so that 42,5% of them express the attitude *neither agree, nor disagree* for the first one and 39,2% for the second item. The results show an increasing trend for both items, since the respondents show a higher level of agreement with the item which brings the river into a privileged position of protection when compared to other landscapes, whereas an undecided attitude is more dominant for the first item. The respondents show higher support to the river as an ecological than as an aesthetic phenomenon in the landscape. Standard deviation for q10.1 (visual dimension) is SD=0,895 for N=419, whereas for q10.5 (ecology dimension) it is SD=0,954 for N=417.



Slika 35: Splošni statistični podatki o reko kot ekološki in estetski videz pokrajine
Figure 35: General statistical results for the river as an ecological and aesthetic phenomenon of the landscape

The set of questions on actors in the river landscape tested the agreement level on the topic of the biosphere (birds, plants), sustainability and anthropocentricity. Result frequency displays asymmetric character in all three cases with a trend for positive values (4+5). The respondents judged the sustainability paradigm as the most positive, for which they display the smallest values on the negative pole, as well as in irresolution. The respondents are a group having strong beliefs that sustainability is the right paradigm for the river landscape. Following closely in the positive trend is the attitude that "the river landscape is needed the most by birds and river plants" (67,9%) and that it is too precious not to be used by man (53,3%).

Preglednica 33: Splošni statistični rezultati za mnenja študentov o uporabnikih obrečnega prostora in trajnosti
Table 33: General statistical results for the attitudes of students on actors along the river and sustainability

Q10. The following claims study the position of rivers in the environment and your attitude on who should exploit them. To what extent do you agree with the following claims about the river landscape?

		1	2	3	4	5	M	SD	N
1.	Rivers and the space around them is needed the most by birds and river plants	1,4	8,5	21,0	46,9	21,0	3,79	0,924	419
2.	The river landscape should be developed sustainably	0,2	4,7	11,1	47,6	33,7	4,13	0,813	413
3.	Rivers are too precious not to be used by man	1,2	9,2	34,7	35,1	18,2	3,61	0,932	417

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score SD-standard deviation; N –number of respondents

Preglednica 34: Splošni statistični rezultati za mnenja študentov o važnosti razvojnih pojavov v prostoru ob rekah
Table 34: The general statistical results for the students' opinion on the degree of importance regarding the phenomenon of development in the area by the river

Q11. In the space along the river different facilities could be provided. What do you consider important for the development of the area along a river, e.g. the Mura or the Drava?

		1	2	3	4	5	M	SD	N
1.	building of hydroelectric power plants for the production of electric power	5,4	12,3	22,6	39,4	13,9	**3,47**	1,077	397
2.	higher accessibility to the river	0,2	7,8	25,5	50,2	13,2	**3,71**	0,811	411
3.	protection of autochthonous architecture	1,2	5,0	21,0	44,8	21,2	**3,86**	0,873	395
4.	building of cottage settlements	9,2	32,3	34,7	17,7	4,2	**2,75**	0,999	416
5.	development of tourist facilities	3,5	11,1	26,4	40,3	17,0	**3,57**	1,017	417
6.	protection of natural bird habitats	0,5	2,1	5,0	34,2	56,4	**4,47**	0,734	416
7.	gravel excavation	10,8	24,3	35,1	19,8	3,1	**2,78**	1,013	395
8.	fish breeding	2,4	8,7	19,3	43,9	23,3	**3,79**	0,985	414
9.	flood protection	0,2	0,7	4,0	32,8	60,4	**4,55**	0,634	416
10	development of agricultural activities	0,7	6,8	22,2	46,9	20,8		0,870	413
11	scientific knowledge about the area	1,9	5,2	20,3	45,0	24,1	**3,87**	0,915	409

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score, SD-standard deviation; N –number of respondents

Respondents' attitude was further studied by evaluating phenomena in the context of developing the river landscape. The concepts were construed according to the developmental and protection discourse (Marušić, 1991). In the distribution of results provided in Table 34 there are two noticeable

tendencies: disagreement about the attitude for q11.4 (cottage settlements) and q11.7 (gravel excavations) to be important for the development of the river landscape and strong agreement for all other items. The most transparent attitude was expressed for q11.9 (flood protection) which was chosen by 93,2% of respondents with positive evaluation. From the results for the answers to questions 11 and 12 it is visible that the protection discourse overrode the developmental one, i.e. that the road to development is through environment protection, which is supported by the results of the pilot study conducted on the sample of 103 Croatian students (Stober, 2011).

The results for the answers showing highest and lowest support are provided in Table 35. They show that the respondents chose the exploitation of resources – spatial, material and energy resources as the least important for development, whereas they judged scientific findings about the area and protection of bird habitats as the most important. The strongest consensus of a group of students was presented in the result on flood protection as the most important element for the development of the river area. The results indicate that in the context of development the lowest ranking was given to cottage settlements and gravel excavations, whereas on the level of visual stimuli the respondents as a whole expressed a unique attitude specifically against the hydroelectric power plant. There is a discrepancy between the offered picture of the hydroelectric power plant on the river and the picture of the hydroelectric power plant at the level of an idea as well as the settlement image at the affective and cognitive level.

Preglednica 35: Najmanjše in največje sprejete izjave na vprašanje št. 11
Table 35: The most and the least acceptable items for question No11

The highest mean grade	The lowest mean grade
Flood protection	Building of cottage settlements
Protection of birds' natural habitats	Gravel excavations
Scientific findings about the area	Building hydroelectric power plants for the production of electric power

Preglednica 36: Splošni statistični rezultati za mnenja študentov o važnosti pojavov za načrtovanje obrečnega prostora
Table 36: The general statistical results for the students opinion on the extent of importance of planning in the area by the river

Q12. Spatial planning determines the purpose of an area in a sense that it takes into consideration the characteristics of the area. According to your feeling, how important are the following concepts for planning the purpose of the land area along the river.

		1	2	3	4	5	M	SD	N
1.	accessibility by car	12,5	18,9	39,6	21,2	7,1	2,91	1,090	421
2.	scenic beauty	0,9	2,1	5,4	29,2	61,8	4,50	0,776	422
3.	already designed environment	1,9	4,2	16,0	32,8	43,6	4,14	0,966	418
4.	river navigability	3,5	10,1	34,0	36,1	15,6	3,50	0,992	421
5.	intact nature	2,1	3,1	17,9	37,3	39,2	4,09	0,940	422
6.	flood protection	2,1	3,3	9,9	28,1	56,1	4,33	0,937	422

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score, SD-standard deviation; N –number of respondents

Question number 12 repeats the topics from the previous question, but in the discourse of planning the purpose. The results in Table 36 are the following: scenic beauty was judged to be the most important, then flood protection, designed environment and intact nature. The respondents were the most undecided on the importance of car accessibility and river buoyancy but with a negative trend for car accessibility and a positive trend for buoyancy. The visual domain of the river landscape was confirmed in this case as a highly positioned topic in evaluating different topics connected to the river landscape.

4.1.3 Flood risk management

Since one of the variables for scene modification was also the method of flood protection (shaping of the water's edge, function), the same topic was questioned in question 13. The first three items are simultaneously variables of simulated scenarios. The respondents were to express their attitude about the measures they agree with. It was assumed that education would play in this case a decisive role in evaluation and it was judged that the knowledge of civil engineering and agriculture students about floods and consequences of floods would influence the result as well as the differences between the attitudes of students and experts, as will be presented and interpreted later in the text.

Preglednica 37: Splošni statistični rezultati za mnenja študentov o ukrepih za varovanje pred poplavami
Table 37: The general statistical results for the students' opinion on the flood protection measures

Q13. In previous years floods were a frequent phenomenon. To what extent do you agree that we should prevent floods by the suggested measures?								
	1	**2**	**3**	**4**	**5**	**M**	**SD**	**N**
1. concrete embankments and fortifications	8,7	12,3	27,8	32,5	14,6	**3,33**	1,154	407
2. bank extensions and digging of river armlets	3,3	7,3	17,7	45,3	22,6	**3,80**	0,996	408
3. creating lakes and hydroelectric power plants	7,5	12,7	25,9	30,4	18,2	**3,41**	1,172	402
4. nothing should be done	63,4	15,1	11,1	2,6	2,4	**1,58**	0,972	401

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score
SD-standard deviation; N –number of respondents

Distribution of results given in Table 37 is asymmetric for all items. It is positive for the first three (q13.1, q13.2, q13.3) and negative for the item q13.4 which expresses the attitude "nothing should be done". This is also the most intense attitude. The respondents find as the most acceptable the measure of flood protection which includes bank extensions and digging of river armlets (67,9%), as simulated in the Restoration Scenario. Hydro technical measures are acceptable, but with a high percentage of the undecided (approximately one fourth of the respondents). Creating lakes and hydroelectric power plants is equally acceptable as hydro technical measures which include concrete embankments and fortifications (Recreation and Tourism Scenario, Settlement Scenario, Energy Production Scenario).

4.2 Conclusions for Environmental orientations, Resources for planning the river landscape and Flood risk management

Students from three regional universities represent a heterogeneous group regarding their environmental orientations and a homogenous distribution regarding gender. Female respondents show somewhat higher inclination toward ecocentric orientations, whereas male respondents appear to be more represented in the anthropocentric-egoistic cluster. Respondents prefer the river landscape in relationship to a general notion of a landscape and a majority thinks that the river landscape should be protected more than other natural landscapes. A higher percentage of respondents are insecure about the claim that river landscapes are more beautiful than other natural landscapes. The respondents are completely certain of the sustainability paradigm being the right way to manage landscapes and to a somewhat lower intensity judge the river landscape to be suitable for biocenosis only and even to an even lower degree for man. They group the elements according to their relevance for the development of the river landscape according to the development-protection conflict. At the top most part of the hierarchy scale are the notions connected to environment protection and at the bottom part of the scale the notions connected to development and exploitation of resources. The respondents as a group prefer flood protection by retention and expansion of armlets. Equal support is expressed for lakes and

hydroelectric power plants and to concrete embankments and fortifications. A difference in attitudes was noted in the evaluation of the visual and written instrument in the scenes of the Settlement and Energy Production Scenario and in question No 11. The image which the respondents had of a hydroelectric power plant was more positive than the presented modification. There was also an evident difference in the visualized and cognitive image of living by the river. The link will be additionally researched by correlating environmental orientation and scenario simulations in the following chapter.

4.3. The connection between the ecological and the aesthetic – structural simulations

4.3.1 The connection between the naturalness of the initial and the invasion of the modified vista

Simulated scenarios were altered by variables in order to represent a specific environmental dimension, so that the Restoration Scenario was paired with ecocentrism, the Outdoor Recreation and Tourism Scenario and Settlement Scenario with the anthropocentrism-egoistic and anthropocentrism-altruistic components and the Energy Production Scenario with the anthropocentrism egoistic environmental orientation. The simulations had not been previously tested in order to establish the connections. The results of the correlations between the values of average rank and the factors for a specific cluster are represented in Table 38.

Preglednica 38: Spearmanov Rho povezava med okoljskimi usmeritvami in scenariji panoramami za izvirne in panoramami scenarija obnovitve
Table 38: Spearman's Rho correlation between environmental orientations and scenario vistas for Origin Vistas and Restoration Scenario Vistas

Environmental orientations	Origin Vistas					
	1	**2**	**3**	**4**	**5**	**6**
Ecocentric	,135(*)	,114(*)	0,072	0,036	0,073	0,093
Anthropocentric Egoistic	-0,061	-0,098	-0,101	-0,098	-0,075	-,156(**)
Anthropocentric Altruistic	0,069	0,076	0,072	0,074	0,072	0,034

Environmental orientations	**Restoration Scenario Vistas**					
	1A	**2A**	**3A**	**4A**	**5A**	**6A**
Ecocentric	0,060	,109(*)	0,062	0,060	,156(**)	,139(**)
Anthropocentric Egoistic	-,120(*)	-,175(**)	-,125(*)	-,137(**)	-,106(*)	-,157(**)
Anthropocentric Altruistic	0,070	,158(**)	,111(*)	,148(**)	,132(*)	,203(**)

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
A-Restoration Scenario; B – Outdoor recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

The first part of Table 38 represents a group of original photos which have not been manipulated, and from 1 to 6 have an increasing trend of strengthening anthropocentric influences. The vistas "virgin

nature" (1) and "the scene with a wooden ferry" (2) correlate positively with the factor of the Ecocentric cluster, as expected. What was not expected was that the scene with the greatest anthropocentric influence, the bridge (6), correlates negatively with the factor of the Anthropocentric-egoistic cluster. All other vistas correlate negatively with river landscape vistas. The assumption was that neither of the images contains a highly anthropocentric environment but only slight shifts in intensity from total nature to an anthropocentric element (bridge) so that neither of the original photographs represents an image of anthropocentric domination which would correspond to the anthropocentric environmental orientation. The correlation coefficient is positive and most stable for the Anthropocentric-altruistic cluster, whereas it is negative for the Anthropocentric-egoistic one and without significance except for the last scene.

The Restoration of the River Scenario (the second part of Table 38) shows the highest number of correlations with the factors of environmental clusters. A positive correlation is expressed for three out of six scenes, whereas a negative correlation is expressed for all six scenes; three significant at the 0.01 level (2-tailed) and three significant at 0.05 level (2-tailed). Five scenes of the Restoration Scenario correlate with the Anthropocentric Altruistic cluster as well. A positive correlation for Ecocentric and Anthropocentric-altruistic is in favour of confirming the overlap of those environmental clusters in attitudes to the Restoration Scenario.

Preglednica 39: Spearmanov Rho povezava med okoljskimi usmeritvami in scenariji panoramami za scenarij rekreacije na prostem in turizem ter scenarij stanovanja
Table 39: Spearman's Rho correlation between environmental orientations and the Outdoor Recreation and Tourism Scenario and the Settlement Scenario

Environmental orientations	Outdoor Recreation and Tourism Scenario Vistas					
	1B	**2B**	**3B**	**4B**	**5B**	**6B**
Ecocentric	,196(**)	0,042	-0,030	0,025	-0,038	0,012
Anthropocentric Egoistic	0,057	0,034	0,088	-0,005	0,024	,146(**)
AnthropocentricAltruistic	-0,051	-0,078	-0,093	-0,103	-,134(*)	-,220(**)

Environmental orientations	Settlement Scenario Vistas					
	1C	**2C**	**3C**	**4C**	**5C**	**6C**
Ecocentric	-,183(**)	-0,103	-0,018	-0,089	-0,101	-,142(**)
Anthropocentric Egoistic	0,052	,155(**)	0,100	,169(**)	0,057	0,074
Anthropocentric Altruistic	-,110(*)	-,143(**)	-,117(*)	-0,080	-0,007	-0,025

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

In the first part of Table 39 Outdoor recreation and Tourism Scenario correlates positively with Ecocentric orientation only in the first scene (nature, tall shrubbery, natural edge, earth pathway, bikers, anglers), but there is also positive correlation with Anthropocentric-egoistic in the last scene

(bridge, arranged pathway, bikers, anglers, boats…). The negative correlation for the last two scenes in Outdoor recreation and Tourism and Anthropocentric-altruistic can be explained by the fact of disapproving of spreading human influence and by indirect care for man through being concerned about the consequences caused by human impact.

The second part of Table 39 presents the results according to which Settlement Scenario in two scenes correlates negatively with the Ecocentric cluster, especially in the poles of original images for scene 1 and scene 6. The first three scenes correlate with Anthropocentric-altruistic orientation. Positive correlation of two scenes and the factor in the cluster of Anthropocentric-egoistic orientation speaks in favour of recognizing this scenario as human dominance.

Preglednica 40: Spearmanov Rho povezava med okoljskimi usmeritvami in scenariji panoramami za scenarij proizvodnje energij
Table 40: Spearman's Rho correlation between environmental orientations and Energy Production Scenario

Environmental orientations	Energy production Scenario Vistas					
	1D	**2D**	**3D**	**4D**	**5D**	**6D**
Ecocentric	-,215(**)	-,155(**)	-,123(*)	-0,024	-,166(**)	-,200(**)
Anthropocentric Egoistic	0,016	0,065	0,070	0,035	,108(*)	0,100
Anthropocentric Altruistic	0,070	0,037	0,025	-0,073	-0,021	0,062

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

The final scenario, the Energy Production Scenario, correlates negatively in five scenes with the factor of Ecocentric orientation, as expected. There is just one significant correlation of the Energy Production Scenario with the Anthropocentric Egoistic cluster. There was expectancy of a positive correlation between the last scenario and the hydroelectric power plant scene, the concrete embankment and decreasing plants in the scene, but the value is marginally significant. It can be concluded from the summarized overview of the positive and negative significance of correlations that the visual simulations presented a specific cluster in an inconsistent manner. The results exhibit partial confirmation of presenting the ideology of ecological orientation in the realized transformation of the river landscape through four variables (edge, greenery, users, built infrastructure). Six original photographs were manipulated for four scenarios. In 13 out of possible 30 times there was correlation of the Ecocentric cluster factor with a specific scene, in 11 for Anthropocentric-egoistic, and in 9 for Anthropocentric-altruistic. The following scenes exhibit the highest correlation factors for specific environmental orientations:

4.3.2 Correlation of visual simulations and intrinsic and extrinsic motivations

The scale on seven motivational aspirations according to Kasser and Ryan (1996) was supplemented by the concept of awareness, which originates in intrinsic motivation, and was assumed as motivation specific for the researched young populaton. Aspiration health was in some studies assumed to be a neutral item, whereas in some others it was listed as intrinsic motivation. Respondents evaluated aspiration value on the scale from 1 – not important at all, 2 –mostly unimportant, 3 – neither improtant nor unimportant, 4 – mostly important, 5 – very important.

The results of a general statistical analysis indicate that there is an assumed hyerarchy of intrinsic over extrinsic motivations, where results in Table 41 indicate that respondents value health as the most important, and wealth as the least important. Awareness is at the bottom of intrinsic motivation, but at the top of the extrinsic ones. At the top of extrinsic aspirations is career, and after that the respondents valued reputation, then looks and, finally, wealth.

Preglednica 41: Splošni statistični rezultati za mnenja študentov o ukrepih za varstvoe pred poplavami
Table 41: The general statistical results for the students'opinion on the flood protection measures

Aspiration	M	SD	N
Wealth	3,25	0,982	419
appearance	3,56	0,484	419
Reputation	3,72	0,778	418
Career	3,99	0,688	419
Awareness	4,16	0,849	419
Knowledge	4,52	0,661	419
family relations	4,69	0,936	419
Health	4,85	0,892	419

M-mean score; SD-standard deviation; N –number of respondents

In the second stage the correlation between aspirations and scene rankings was researched. The results shown in Table 42 indicate that extrinsic aspirations mostly correlate with visual stimuli. Accordingly, the highest numebr of correlations can be found, six times for the motif **career** (1, 1D, 2, 3, 3D i 5D), wheras **reputation** (1, 1C, 1D, 5D, 6D), and **wealth** (1B, 1C, 2, 3D i 6D) correlate with vistas five (5) times. **Looks** (1B, 1C, 1D) correlate on three occasions, awareness on two. **Family relations** correlates with Vista 2B. **Health and knowledge** do not correlate with either of the vistas. Positive correlation points to a higher evaluation of aspiration and lower evaluation of vistas. Thus the result indicates a positive link between extrinsic values and a better evaluation of the Energy Production Scenario as well as the negative relationships between the evaluation of the Origin Vistas and evaluation of extrinsic aspirations.

Preglednica 42 Spearmanov Rho povezava med okoljskimi usmeritvami in scenariji panoramami za scenarij proizvodnje energij
Table 42: Spearman's Rho correlation between environmental orientations and the Energy Production Scenario

		Intrinsic motivational orientations				Extrinsic motivational orientations			
Vista		**Wealth**	**health**	**awareness**	**family relation**	**appearance**	**knowledge**	**reputation**	**career**
1	Correlation Coefficient	,031	,058	,036	,009	,047	-,007	,131*	,109*
	Sig. (2-tailed)	,545	,261	,490	,869	,363	,894	,011	,035
	N	378	378	378	378	378	378	378	378
1B	Correlation Coefficient	,155**	,027	,000	,066	,123*	-,044	,066	,072
	Sig. (2-tailed)	,003	,597	,994	,202	,016	,396	,202	,164
	N	378	378	378	378	378	378	378	378
1C	Correlation Coefficient	-,173**	-,024	,018	-,061	-,154**	,031	-,146**	-,070
	Sig. (2-tailed)	,001	,636	,729	,240	,003	,550	,004	,173
	N	378	378	378	378	378	378	378	378
1D	Correlation Coefficient	-,088	-,005	-,056	-,057	-,101*	-,019	-,134**	-,200**
	Sig. (2-tailed)	,086	,924	,278	,267	,049	,709	,009	,000
	N	378	378	378	378	378	378	378	378
2	Correlation Coefficient	,101*	-,004	-,058	-,007	,093	-,006	,032	,129*
	Sig. (2-tailed)	,049	,942	,262	,899	,072	,913	,538	,012
	N	377	377	377	377	377	377	377	377
2B	Correlation Coefficient	,101	,057	,003	,120*	,045	-,032	,025	,011
	Sig. (2-tailed)	,050	,272	,957	,020	,378	,541	,629	,828
	N	377	377	377	377	377	377	377	377
3	Correlation Coefficient	,069	,092	-,045	,099	,026	-,002	,011	,115*
	Sig. (2-tailed)	,178	,073	,385	,055	,613	,965	,831	,025
	N	378	378	378	378	378	378	378	378
3A	Correlation Coefficient	,065	-,041	-,103*	-,023	,000	-,035	,044	-,020
	Sig. (2-tailed)	,205	,429	,045	,652	,994	,496	,398	,696
	N	378	378	378	378	378	378	378	378
3C	Correlation Coefficient	,007	,023	,140**	-,060	,028	,048	-,030	,002
	Sig. (2-tailed)	,892	,650	,007	,247	,594	,354	,566	,966
	N	378	378	378	378	378	378	378	378
3D	Correlation Coefficient	-,105*	,017	-,016	,022	-,069	,024	-,079	-,107*
	Sig. (2-tailed)	,042	,746	,754	,673	,182	,643	,124	,038
	N	378	378	378	378	378	378	378	378
5D	Correlation Coefficient	-,070	,010	,000	,060	-,064	-,008	-,129*	-,119*
	Sig. (2-tailed)	,173	,850	,994	,248	,216	,884	,012	,021
	N	378	378	378	378	378	378	378	378
6D	Correlation Coefficient	-,118*	,009	-,099	-,003	-,042	,027	-,215**	-,097
	Sig. (2-tailed)	,022	,859	,056	,952	,416	,598	,000	,059
	N	376	376	376	376	376	376	376	376

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

4.3.3 The best and the worst Scenes – investigation on valuing naturalness in transformation of the river landscape

The results of evaluating the best and the worst scenes present the answers for all 30 scenes in the above mentioned two categories. In Table 43 there is an overview of evaluation for each individual vista and the answers given by 234 students.

Preglednica 43: Najboljši in najslabši prizori - rezultati skupnega vzorca, prvotna scena glede na število simuliranih scenarijev, število in delež odgovorov
Table 43: The best and the worst scenes – results of the total sample, original scene in relation to the simulated scenario, the number of answers and the share in the answers

nN	Good Scene	Bad Scene	Good Scene	Bad Scene
1	**66**	**8**	**5,2%**	**0,6%**
1A	111	3	8,7%	0,2%
1B	4	41	0,3%	3,2%
1C	17	44	1,3%	3,5%
1D	5	117	0,4%	9,2%
2	**23**	**12**	**1,8%**	**0,9%**
2A	79	7	6,2%	0,6%
2B	61	3	4,8%	0,2%
2C	45	29	3,5%	2,3%
2D	2	122	0,2%	9,6%
3	**72**	**0**	**5,7%**	**0,0%**
3A	89	5	7,0%	0,4%
3B	130	0	10,2%	0,0%
3C	23	34	1,8%	2,7%
3D	4	132	0,3%	10,4%
4	**10**	**17**	**0,8%**	**1,3%**
4A	63	6	5,0%	0,5%
4B	44	4	3,5%	0,3%
4C	26	33	2,0%	2,6%
4D	2	161	0,2%	12,7%
5	**5**	**16**	**0,4%**	**1,3%**
5A	64	10	5,0%	0,8%
5B	34	3	2,7%	0,2%
5C	14	12	1,1%	0,9%
5D	5	97	0,4%	7,6%
6	**5**	**28**	**0,4%**	**2,2%**
6A	21	20	1,7%	1,6%
6B	46	21	3,6%	1,7%
6C	23	4	1,8%	0,3%
6D	3	107	0,2%	8,4%
B.O.	176	176	13,8%	13,8%

n-number of original scene; A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario


Slika 36: Najboljši (levo) in najslabši (desno) Izvirni prikaz
Figure 36: The best (left) and the worst (right) Original Vista

If original vistas are extracted from all of the vistas, the following distribution of answers is visible: the most frequently evaluated as "a good vista" is the vista with the mill on the Mura, followed by a series of vistas ordered according to the intensity of human impact visible in the vista: a completely original vista, a ferry at Podturen, a beach at the mouth of the Mura in the Drava, a big ferry at Križnica and the bridge at Križnica (3,1,2,4,5,6; see Figure 35). It is visible in the series that the vista voted as the best is natural environment with an element of cultural heritage then a natural scene with none or small human impact and that the worse rated vistas in the series are those with higher human impact – a beach (slide), a ferry, a bridge. According to the comments connected to the set of vistas with the mill (3) we conclude that what was more perceived as endangered was cultural heritage, rather than the natural dimension. In the interaction of cultural and natural heritage, cultural heritage represents stronger motivation in the evaluation than natural heritage.

Preglednica 44: Najboljši in najslabši prizori - rezultati skupnega vzorca od največjih do najmanjših rezultatov
Table 44: The best and the worst vista – results of the total sample, from highest to lowest results

Good Scene			**Bad Scene**	
Vista	**N**		**Vista**	**N**
3B	130		4D	161
1A	111		3D	132
3A	89		2D	122
2A	79		1D	117
3	72		6D	107
1	66		5D	97
5A	64		1C	44
4A	63		1B	41
2B	61		3C	34
6B	46		4C	33
2C	45		2C	29
4B	44		6	28
5B	34		6B	21
4C	26		6A	20

continues

continues

2	23	4	17
3C	23	5	16
6C	23	2	12
6A	21	5C	12
1C	17	5A	10
5C	14	1	8
4	10	2A	7
1D	5	4A	6
5	5	3A	5
5D	5	4B	4
6	5	6C	4
1B	4	1A	3
3D	4	2B	3
6D	3	5B	3
2D	2	3	0
4D	2	3B	0

n-number of original scene; A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

In the set of the modified vistas the best evaluated were the vistas shown in Table 44 and Figure 38:

3b - a mill with tourist facilities, pedestrians, cyclists – 130 times selected as the best

1a – a completely natural vista, renaturalised – controlled greenery, wood and branches deposit was removed, birds were added - 111 times selected in the best group

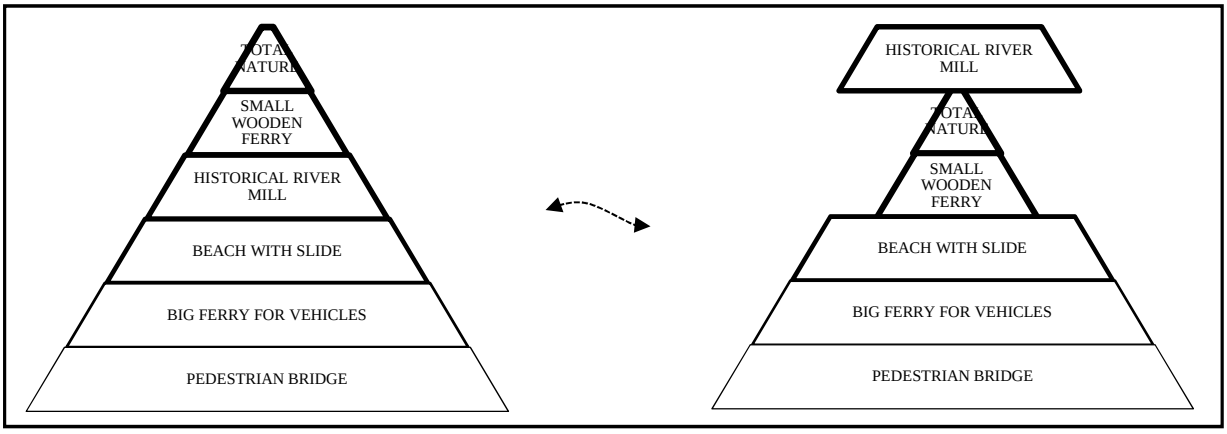
3a – the vista where the mill is removed, and the bank is decorated with greenery, no humans present, birds in the vista, the edge is ”softened” – 89 times selected as the best

The worst rated were:

4d – the hydroelectric power plant on the Mura’s confluence into the Drava – beach - 161 times voted as the worst

3d – the hydroelectric power plant next to the mill on the Mura – 132 times

2d – the hydroelectric power plant near Podturen – 122 times



Slika 37: Diagram pričakovanih prizorov in rezultati evalvacije začetnega in modificiranih prizorov
Figure 37: Diagram of the expected vistas and the results of evaluation of initial and modified vistas

Slika 38: Tri najboljši(levo) in trije najslabšu (desno) modificirana prikazi
Figure 38: Three of the best (left) and three worst (right) modified Vistas

The results indicate that there are no contradictory phenomena in the results of the selection of the best and the worst vista (Figure 38). Those vistas selected as the worst were not selected into the group of the best ones.

The ordering of vistas on the scale from the best to the worst scene is in favour of the negation of the first hypothesis that the respondents would evaluate the scenarios according to the level of naturalness

of the first vista. Although it was expected that the naturalness of the landscape would be perceived as vulnerability and that the intensity of the intervention would be judged according to that, the reaction was influenced by other inputs. Judging from the number and intensity of the comments, Slovenian and Croatian students identified the figure of the mill as an element of cultural heritage. We can conclude that the results for original vistas are in favour of the hypothesis that the vistas are ranked according to the degree of naturalness only in the case that the contents of the vista does not evoke an individual or group emotion which would contribute a shift in the distribution. By studying the contents and the number of circled and crossed-out elements in the vistas it can be noticed that all of them were influenced by the variable of infrastructure and the users.

4.3.4 Results of ranking functional scenarios in the river landscape

The results of ranking vistas are provided for each set with an appropriate mean score resulting from the rank (Table 45). The distribution of the mean score results shows that the best accepted was the Renaturalisation Scenario – controlled nature, no human access, but with the flood protection function. The least acceptable was the scenario of water energy exploitation, i.e. with the hydroelectric power plant, which was always ranked as the last in the series – as the fifth.

Preglednica 45: Splošni statistični rezultati razvrščanja po naborih prikaza, rezultati po srednjih ocenah
Table 45: The general statistical results of ranking according to the sets of vistas, results according to the mean grades

	Vistas											
rank	**natural scene**		**ferry Podturen**		**Mill on the Mura**		**beach confluence**		**ferry Križnica**		**bridge Križnica**	
	nN	**M**	**nN**	**M**	**nN**	**M**	**nN**	**M**	**nN**	**M**	**nN**	**M**
1	1A	1,77	2A	2,19	3	2,16	4A	2,16	5A	2,12	6A	2,37
2	1	2,24	2B	2,42	3B	2,24	4B	2,36	5B	2,51	6C	2,57
3	1B	3,42	2	2,85	3A	2,48	4	2,54	5	2,86	6B	2,66
4	1C	3,51	2C	3,18	3C	3,58	4C	3,40	5C	3,11	6	3,12
5	1D	4,07	2D	4,36	3D	4,54	4D	4,55	5D	4,39	6D	4,28

n-number of original scene; A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

After renaturalisation, the ranking results indicate to a hierarchy of scenario acceptability in the following order: the Outdoor Recreation And Tourism Scenario, the Origin Vista, the Settlement Scenario and the Energy Production Scenario. The same ranking pattern was noticed in the original scene, 2, 4 and 5 which were evaluated as a “scene with visible stewardship”. The results offer the following picture: for vistas 2,4 and 5 the respondents showed a consistent system in scenario ranking

so that a regularity on the ordering for the three sets can be observed, as follows: the Restoration Scenario, the Outdoor Recreation Scenario and the Tourism Scenario, the Origin Vista, the Settlement Scenario and the Energy Production Scenario which follow an assumed order in the increase of human impact. Although this concept also covers the vista with the mill on the Mura, set 3 stands out with its ranking pattern. A shift in rank distribution is obvious for set number 6, too, which depicts the bridge at Križnica.

Original vistas were ranked as third in three sets. In set 3, the vista with the mill on the Mura was ranked first, in the nature vista as the second and in set 6 the bridge vista as the fourth.

The Renaturalisation Scenario was evaluated as the first in all sets, except for the mill on the Mura, where it was in the third place. **The Tourism Development Scenario** was most frequently (in four sets) ranked as the second, and it was third in two sets. **Settlement** was ranked as fourth, for all vistas, except for the bridge, where it was the second. **Hydroelectric power plant** is always the fifth.

The extreme poles of original photographs on which there are the lowest and the highest human impact (total nature and the bridge) show a difference in the inverted order of the "middle" ranks (2, 3, 4) so that the scenario of higher impact is more acceptable in the vista which has in its initial vista higher human impact than in the completely natural environment. It may be assumed that the differences on the vistas according to human impact started to be perceived only between total nature and the vistas 2, 4 and 5, and then again between the vistas with the bridge. The differences in the results of ranking scenarios only in the first and the third vista indicate that the naturalness was perceived as vulnerability and that the anthropocentric influence was more acceptable there where it had already existed. There was a different value system established for set 3 under the influence of the emotion linked to the national cultural symbol – the mill.

The sum of the means for the evaluation of scene ranking for particular scenarios is shown in Table 46. The respondents chose most frequently the Restoration Scenario as the first, whereas the Energy Production Scenario was evaluated as the least acceptable in the context of the others. The presupposed dependency of the original vista on the new human influence is visible in the results for all scenarios except for the Energy production scenario which is always the least acceptable in the context of the transformations offered.

Preglednica 46: Lestvica scenarijev glede na povprečne ocene
Table 46: Ranking of scenarios according to mean scores

	Original Vista	**Restoration Scenario**	**Outdoor Recreation and Tourism Scenario**	**Settlement Scenario**	**Energy Production Scenario**
No Human Impact	2	1	3	4	5
Visible Stewardship	3	1	2	4	5
Scene With National Slovenian And Croatian Cultural Heritage	1	3	2	4	5
Dominant Human Impact	4	1	3	2	5
Summary of rankings	10	6	10	14	20

Ranking 1(best) to 5 (worst)

The results indicate the following: the young population prefers a completely natural, but controlled and well-ordered landscape, the evaluation of the desired river scene was influenced by the emotion related to the cultural national heritage in the scene and the element of the hydroelectric power plant is least acceptable in the context of other options offered.

The criterion of naturalness as a guiding influence in the evaluation of the scene has been assumed according to what was suggested in Kaplan et al. (1989), Purcell and Lamb (1990), and Ode et al. (2009). There has been no confirmation of the assumption that in the planning of new features along water courses (the Mura and the Drava Rivers) the suitability of new phenomena will be dependent on the evaluation of naturalness of the observed location. The hypothesis was disproved by the fact that the maximum influence was more acceptable in a completely natural environment than in the area where there was already a pedestrian bridge (Table 47). In the case of the scene with a water slide on thebeach, a, a mill and a ferry as indicators of minor human impact the transformation of the area into the Energy Production Scenario was ranked the highest.

Preglednica 47: Splošni statistični rezultati, razvrstitev scenarijev energetske proizvodnje
Table 47: The general statistical results of ranking of the Energy Production Scenario

	Energy Production Scenario
No Human Impact	4,07
Dominant Human Impact	4,28
Visible Stewardship	4,43
Scene With National Slovenian And Croatian Cultural Heritage	4,54

Ranking 1(best) to 5 (worst)

4.4 Attachment to the river

The structure of the respondents according to the last river visited (Table 48) indicates that they frequently visited rivers of a large watercourse (categorization according to the water management treatment in the Draft of the Plan on Water Area Management of the Republic of Croatia 2010).

Preglednica 48: Ime reke zadnjega obiska
Table 48: Name of the river last visited

Name of Last visited River	*No of Students*	*Name of Last visited River*	*No of Students*
Balaton	1	Mrežnica	1
Bić	1	**Mura**	**6**
Bolska	1	Orljava	2
Bosut	7	Pakra	1
Creek (Dubai)	1	Pšata	1
Donava	1	Raba	2
Dragonja	2	Rinya	1
Drava	**147**	Rinža	3
Drava, Karašica	1	Rižana	1
Drava, Mura	1	**Sava**	**27**
Drava, Soca	1	Sava Bohinjka	2
Dreta	1	Sava Dolinka	1
Danube	**71**	Savinja	3
Glinščica	1	Sia	1
Gradaščica	5	Skojcjan	1
Hubelj	1	Soča	3
Idrica	1	Sugo	1
Jesinej	1	Šćavnica	1
Kamniška Bistrica	3	Temenica	1
Kapos	**43**	Tinja	1
Kokra	1	Tisza	3
Koros	1	Unica	1
Krka	7	Voćinka	1
Ljubljanica	**47**	Zala	6
Meža	1	ND	7

The majority of the respondents (35,25%) visited the river Drava, which is in line with the fact that the majority of the respondents from Osijek mentioned precisely that river. The next most frequently visited river is the Danube, then the Ljubljanica, the Kapos and the Sava. Those five rivers were indicated by a total of 80,3% of the respondents, whereas the others mentioned the rivers of smaller watercourses, except for the Mura which was listed by 6 respondents.

We can suppose, that in indicating the memories linked to the last river the respondents had in mind the image of a river of a large watercourse such as the Drava and the Mura. Only a fraction more than one third of the respondents was connected to the rivers Drava and Mura. When interpreting the results we cannot assume that the respondents evaluated precisely those two rivers which the instrument tried to recall in its questions, but the rivers of large watercourses in general. Somewhat lower results than the assumed ones for the river Kapos have been noticed, which will influence the interpretation of the results in the framework, Attachment to the river, for Hungarian respondents.

Preglednica 49: Rezultati pogostosti obiskov rečnega prostora, izraženo v deležih
Table 49: The results of the frequency of visits to the river area expressed in percent

Frequency of visits to the river area	%
Often, on a daily basis or several times a week	50,7
Seldom, a few times a year	40,8
Very rarely, once in a few years	6,4
Never	0,7

Results distribution of the frequency of visits to the river area shows that the respondents are a group who visit the river area on a daily basis or several times a week in the range of 50,7%, whereas 40,8% visit the river area a few times a year. Only 0,7% of the respondents have never been near a river. The results are shown in Table 49.

We further researched the manner of spending time in the river area. The question combined a quantitative and a qualitative analysis. Table 50 offers the distribution of answers for the suggested assumed activities. The respondents were given the possibility of listing some further activities with the evaluation of its frequency.

Preglednica 50: Delež odgovorov anketirancev za navedene aktivnosti, v katerih preživljajo čas ob reki
Table 50: Share of the respondents' answers for the activities that are done by the river

Activity / frequency	Daily	A few times a week	Once a week	Once a month	Once a year	More seldom than once a year	never	NR
walking	3,5	18,6	20,3	30,0	18,4	7,1	1,7	0,5
sunbathing	0,7	5,4	5,2	13,0	25,0	20,5	29,2	0,9
sports	1,4	10,4	10,8	19,1	21,7	19,1	16,5	0,9
angling	0,7	0,5	1,9	7,1	14,2	18,4	56,8	0,5
education	0,2	0,9	1,2	5,2	14,6	32,5	42,7	2,6
visiting hydro power plant	0,0	0,0	0,2	0,5	5,0	29,2	64,6	0,5
staying in a cottage	0,5	1,9	2,1	9,2	23,1	19,6	42,9	0,7

The respondents mostly spend their time by the river taking walks. 68,9% of them walk at least once a month, and 40.3% of the respondents does sports at least once a month. The highest percentage of students gave an answer that they had never visited a hydroelectric power plant (64,6%). Only 1,7% of them had never walked by the river. A third of the respondents visited a hydroelectric power plant less than once a year. The results indicate that there is a population which is present in the river area for reasons of taking walks, sports and sunbathing, whereas the most infrequent reason indicated was the hydro power plant, education or angling. Seldom staying in a cottage is characteristic for the observed sample of the respondents.

A qualitative analysis of the answers for the open part of the question on additional activities will be presented descriptively due to a low percentage of the answers in the total sample. The Student population provided the following activities as a section in the open part of the question to describe the activities they do by the river: *relaxation, relaxation and rowing, leisure, thinking about the peace, sitting, sitting on the riverbank, enjoyment and pleasure, romance; picnicking, camping, starting fire, riding bicycles; hanging around with friends, family gathering; taking photos, painting; watching the river, observing the eco-system of the riverbank; playing in the park; visiting a coffee shop, a restaurant; bathing, rafting; ferry riding; fresh air; tourism; living by the river.* The concepts indicate that in the river area the respondents had an experience of different activities linked to the river and that all activities are connected to an active or passive relaxation and free time. There are some specific activities such as taking photos, painting, rowing, observing the ecosystem, ferry riding, and which can be included in the suggestion for further research.

Spearman's Rho correlation of frequency and the activities during the stay were studied and shown in Table 51. The results indicate that the respondents who spend more time in the river area walk more frequently, then do sports, educate themselves, spend time in cottages and sunbathe. Although the results of the percentages for particular contents for the total sample do not show a high percentage of those who educate themselves or spend time in a cottage, the results of the correlation display a positive significant relation.

Preglednica 51 Spearmanov Rho povezava med večjo pogostostjo bivanja ob reki in vsebino
Table 51 Spearman's Rho correlation between a higher frequency of staying by the river and the contents of the stay

	walking	sunbathe	sports	fishing	education	visits to HE	stay in a cottage
Correlation Coefficient	,695**	,141**	,373**	,075	,244**	,065	,182**
Sig. (2-tailed)	,000	,004	,000	,123	,000	,182	,000
N	418	416	416	418	409	418	417

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

An open question about the memory of the last visit to the river was coded into four topics after a review of all the concepts. The concepts represented a basis for identifying the four categories: water, nature, activity, features (creations), and emotions (Table 52). The categories were defined in order for them to be as close as possible to the variables studied in the written and the graphic part and an additional category of emotions was added according to Gobster et al. (2007). The category emotions contains the concepts related to feelings and senses (eyesight, hearing, touch, taste, smell, cold and warmth).

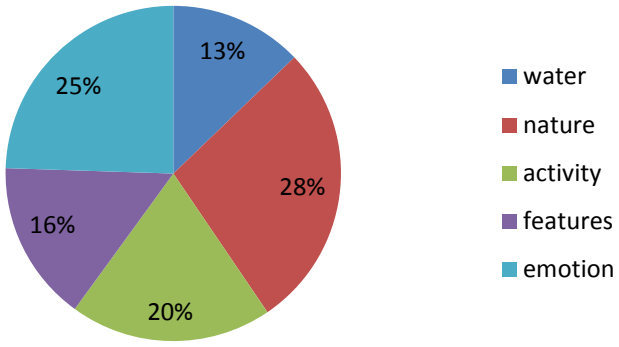
Preglednica 52: Spomin vprašanih na zadnji obisk obrečne krajine
Table 52: The memory of the respondents' last visit to the river

Category	An example of the topic in the memory
water	cleanliness of the surface greenery (HR-UM;.1)
	the gigantic fast Drava (HR-UM;4)
	embankment, sand, vortices (HR-UM;12)
	colour of the river (environment arrangement, presence of animals) (SLO-PED;2)
	cold water, (swimming) (SLO-FGG-GEO;6)
	cold water, clean (SLO-FGG-GEO;22)
	fast water (SLO-FGG-GRAD;24)
	pollution, dingy water, rafting (SLO-FGG-GRAD;25)
	low water-level, dirty, beautiful and peaceful water (HU-UM;2)
	water, (rain, boats, trees, people, bridge) (HU-UM;9)
	(bridges, traffic),polluted water (HU-RUR;8)
nature	cormorants (HR-UM;6)
	spring flowers (HR-UM;9)
	wind (HR-PED;4)
	(colour of the river), environment innateness, presence of animals (SLO-PED;2)
	mosquitoes (SLO-PED;3)
	protected nature, animals,(arranged path which fits into the natural environment) (SLO-PED;7)
	swans, ducks (SLO-PED;10)
	birds, clean water, river stones, water animals (SLO-PED;22)
	water, rain, ships, trees, people, bridge (HU-UM;9)
activity	leisure time, hanging out with friends, fun (HR-UM;2)
	walks (HR-UM;9)
	river bank "regulation": cutting trees and creating naked space on the river bank (HR-UM;11)
	pleasurable socializing (with water humming) (HR-UM;5)
	angling (SLO-PED;14)
	crossing river (SLO-PED;1)
	volleyball (SLO-FGG-GRAD;33)
	(cold water), swimming, lots of people by the Ljubljanica, evening (pleasantly cold) (SLO-FGG-GRAD;4)
	flood, river embankment (HU-RUR;16)
features	ships (HR-PED;7)
	rubbish (HR-PED;10)
	(preserved nature, animals), arranged path which fits into the natural environment (SLO-PED;7)

continues

	continues
	human disrespect of nature, plastic bottles in the river Soča in the nature's park (SLO-PED;13) a boat carrying tourist, (SLO-PED;18) kayak, canoe, pollution, birds (SLO-FGG-GRAD;32) beautifully arranged nature, boats (SLO-FGG-GRAD;21) bridges, traffic (polluted water) (HU-RUR;8) bridges, regulated river (HU-RUR;13) (water), rain, boats, people, bridge (HU-UM;9)
emotions	quiet and peace we usually look for there, peacefulness(HR-UM;10) (pleasant company) with water humming (HR-UM;5) (sun), sound, smell (HR-PED;5) peacefulness (HR-PED;11) quiet, beauty, relaxation (SLO-FGG-GEO;20) hum (SLO-FGG-GRAD;10) indigenous nature, river pleasantly influencing senses (SLO-FGG-GRAD;22) (lots of people by the Ljubljanica, evening), pleasantly cold (SLO-FGG-GRAD;4) beautiful nature, silence (HU-RUR;26) peace, cleanliness, fresh air (HU-RUR;38) (beautiful environment), peacefulness, refreshment (HU-UM;6) Better climate, too dirty, I'd jump into it if only it were more appealing (SLO-FGG-GRAD;14)

Distribution per group is shown in Table 53. What the respondents remember – impressions – from visiting the river, is to the highest degree linked to the elements of nature (greenery, trees, branches, shrubs, grass etc.), then an emotional impression (beautiful, pleasant, peaceful, quiet etc.) and the remembered activities undertaken in the area (walks, running, bike riding, sitting and drinking etc.). None of the categories is dominant.



Preglednica 53 Odzivne kategorije in pogostost
Table 53 Response categories and their frequency

An overview of the set of features indicates perception of the anthropocentric forms such as a bridge, a sidewalk, concrete riverbank etc. These concepts are represented in the memory less than nature and activities, and more than water. The respondents list least frequently those concepts which are connected to a water body (water speed, polluted water…). If water and nature are compatible with the

naturalness of the scene, we can see that the respondents remember 41% of the concepts precisely from this dimension of the river landscape.

The last time an average respondent visited the river of a large watercourse, probably the Drava or the Danube. Memories related to the visit are connected mostly to nature and personal emotion, and then to the activities which were undertaken or seen by the respondent. The least frequently remembered was the water body. If the water element is counted to nature, then nature becomes a dominant element. An average respondent is very frequently in the river landscape, at least once a week, mostly taking walks or doing sports. Very rarely or never those are visits to the hydroelectric power plant, but the respondent being in the river landscape, spends that time being educated or in a cottage.

Imposing the framework Attachment to the river, the second stage of the result analysis, attempted to identify different groups of respondents in relation to their interaction to the river landscape and their behaviour in it. Correlations on the total sample are provided for the frequency of visiting the river in Table 54. The connection of the visits to the river landscape is expressed for 18 out of 38 items related to the framework Environmental orientation, and 4 out of 16 for the framework Policy preferences. Lower frequency of visits to the river is positively correlated to the items defining environmental orientation Anthropocentric-egoistic, negatively correlated to one Ecocentric item and negatively correlated to two Anthropocentric altruistic items.

Preglednica 54 Spearmanov Rho povezava med pogostostjo obiska obrečne krajine in vsemi izjavami v instrumentu
Table 54 Spearman Rho correlation between frequency of the visits to the river landscape and other statements in the instrument

Positive Correlation				Negative Correlation			
Questionnaire Item	**Correlation Coefficient**	**Sig. (2-tailed)**	**N**	**Questionnaire Item**	**Correlation Coefficient**	**Sig. (2-tailed)**	**N**
Man is the absolute master of nature in which he lives and he may treat it according to his free will	,137**	,005	416	Rivers connect both physically and culturally the areas they flow through	-,118*	,017	412
The development of technical solutions brings to the human kind some new advantages and pleasures	,105*	,033	418	A river should serve man only for relaxation, recreation and enjoying the view	-,163**	,001	416
International agreements on rivers should regulate the building of hydro power plants	,168**	,001	406	Towns through which a river flows are more beautiful than those towns which don't have a river	-,208**	,000	413
International agreements on rivers should regulate nature parks	,129**	,009	411	Problems about rivers are better understood by the population living by the rivers	-,306**	,000	413

continues

continues

I visit the river more frequently because of taking walks	,695**	,000	418	Problems about rivers are better understood by the owners of lands near the rivers	-,099*	,046	410
I visit the river more frequently because of sunbathing	,141**	,004	416	River landscape is more beautiful than other natural landscapes	-,105*	,033	415
I visit the river more frequently because of sports	,373**	,000	416	Protection of autochthonous architecture is important for the development of the river area	-,149**	,003	391
I visit the river more frequently because of education	,244**	,000	409	Development of tourist offers is important for the development of the river area	-,127**	,010	413
I visit the river more frequently because of spending time in a cottage	,182**	,000	417	We should not use anything to fight floods	-,162**	,001	397
Building of hydroelectric power plants is important for the development of the river area	,257**	,000	393	Anglers by the river are attractive	-,167**	,001	413
Protection of natural bird habitats is important for the development of the river area	,102*	,039	412	Swimmers by the river are attractive	-,100*	,043	411
Gravel excavating is important for the development of the river area	,199**	,000	391				
Flood protection is important for the development of the river area	,106*	,032	412				
Arranged environment is important for planning the purposes in the river area	,213**	,000	414				
Flood protection is important for planning the purpose in the river area	,181**	,000	418				
Floods should be fought by concrete embankments and fortifications	,171**	,001	403				
Floods should be fought by bank extensions and digging of river armlets	,144**	,004	404				
Floods should be fought by creating lakes and hydroelectric power plants	,219**	,000	398				
Hydroelectric power plant looks attractive by the river	,209**	,000	409				

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Lower frequency of spending time in the river area correlates negatively with the attitude that the population and land owners understand the problems of the rivers, as well as with the attitude that river landscapes are more beautiful than other natural landscapes. This population is more positively oriented toward the fact that international agreements should regulate hydroelectric power plants and

natural parks in cross-border rivers. The result expressing the respondents being less frequently by the river is in a positive correlation with the question on hydroelectric power plants as an important topic for the development of the river area, both as a topic of international agreements and as an attractive element in the river area. Lower frequency of spending time by the river also establishes a positive correlation with the attitudes on flood protection and the protection of river areas as bird habitats. The respondents being less frequently by the river give support to anthropocentric phenomena, technical arrangements of the river, flood protection, but not to people themselves. This is supported by the negative correlation with the attitude that anglers and swimmers are an attractive element in the river area and that autochthonous architecture and tourism should be developed in the river area. The respondents who visited the river less frequently showed a less positive attitude towards the inhabitants and river land owners as appropriate stakeholders in planning and managing river area.

4.5 Policy preferences on river management and authorities

Within policy preferences there were four questions asked, and the respondents gave answers to 16 items.

The first question defines the respondent's confidence about the managing and decision-making institutions at different levels. The levels are defined as: national, regional and local levels. The institutions at those levels are optionally combined with interested subjects in decision-making participation as follows: non-governmental organisations, scientists and experts, population by the river and owners of land by the river. The second question defines the respondent's attitude to the relation of national wealth and the responsibility for ecological problems. The third and fourth question are designed in combination so as to research the respondent's attitude on whether the border river area should be regulated by international agreements and what should be the topic of common agreements.

According to the results provided in Table 55, the respondents hold that river area should be managed by subjects according to the following order from the highest to the lowest value of the mean score:

1. scientists and experts
2. non-governmental organisations for environment protection
3. population by the river
4. civil services at the local level
5. owners of the land by the river
6. civil services at the regional level
7. civil services at the national level

Preglednica 55: Splošni statistični rezultati za mnenja študentov o subjektih načrtovanja in upravljanju rek
Table 55: The general statistical results of the students' opinion on the subjects of management and planning of rivers areas

3 The river area is managed by different institutions and groups at different levels – national, regional and local. In your opinion, who understands the best the problems of the river?								
		1	**2**	**3**	**4**	**5**	**M**	**SD**	**N**
1.	**civil services at the national level**	18,4	32,3	29,2	13,0	1,9	**2,45**	1,015	402
2.	**civil services at the regional level**	8,7	22,9	32,5	29,2	2,4	**2,93**	1,003	406
3.	**civil services at the local level**	6,4	9,0	31,4	37,3	11,8	**3,41**	1,038	406
4.	**non-governmental organisations for environment protection**	1,7	3,8	15,1	43,9	32,5	**4,05**	0,894	411
5.	**scientists and experts**	1,4	3,1	14,6	40,8	38,0	**4,13**	0,882	415
6.	**population by the river**	2,8	8,0	23,8	38,4	25,2	**3,76**	1,015	417
7.	**owners of the land by the river**	6,1	18,6	30,0	27,6	15,3	**3,28**	1,130	414

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score, SD-standard deviation; N –number of respondents

The results distribution is asymmetric for all items except for the item of the civil service at the regional level, where there is a high percentage of the undecided (32,5%). However, other respondents in the same percentage of 31,6% either agree or disagree with the statement that the enlisted stakeholders understand the problems of the river area. The results indicate that there is agreement for the following subjects: civil services at the local level, non-governmental organisations for environment protection, scientists and experts, the population by the river, and owners of the land by the river (q3.3, q3.4, q3.5,q3.6 and q3.7).

A high number of undecided respondents are visible in the results for civil services at all levels and for owners of the land by the river. There is a lack of confidence in civil services which drops off with lowering the level from the national to the local. The respondents consider local authorities to understand to a higher degree the problems of the rivers. There is an expressed confidence in science and expertise. The young population believes in science and experts more than in the institutionalized form of management and decision-making. The results indicate, too, that there is support to the participation of the population, especially to the non-institutionalised forms of activism, the non-governmental organisations for environment protection.

In the question of managing cross-border rivers there was a clear position that common international bodies should be held responsible. The results are asymmetric and positive for the answers to the first statement, whereas the opposite attitude, that wealthier countries should care more about the

ecological problems than the less developed countries was extremely symmetrically distributed with a relatively small percentage of the undecided (16,7) (Table 56).

Preglednica 56: Splošni statistični rezultati za mnenja študentov o mednarodnih sporazumih in odgovornosti za bogastvo
Table 56: The general statistical results of the students' opinion on international agreements and obligations with respect to the economy

4. Rivers flow through several countries and so transfer the influence downstream and into the wider area.
To what degree do you agree with the following statements?

		1	2	3	4	5	M	SD	N
1.	**Border rivers should be managed by common international bodies.**	1,7	3,8	12,7	41,5	37,5	4,13	0,901	412
2.	**Wealthier countries through which the river flows should take more care about the ecological problems than the less developed countries.**	19,1	18,2	16,7	24,1	20,5	3,09	1,426	418

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score, SD-standard deviation; N –number of respondents

The contents of international agreements which were supported in the previous question were researched by seven topics which were graded from 1 – do not agree at all to 5 – totally agree. The results are shown in Table 57.

Preglednica 57: Splošni statistični rezultati za mnenja študentov o temah mednarodnih sporazumov
Table 57: The general statistical results of the students' opinion on the subject of international agreement

5. In your opinion, international agreements on rivers should regulate:

		1	2	3	4	5	M	SD	N
1.	building of hydroelectric power plants	3,3	6,4	23,1	39,9	23,3	**3,77**	1,003	407
2.	bioreserves	0,9	3,1	18,6	42,2	31,1	**4,04**	0,857	407
3.	ecological problems	0,9	1,4	5,0	38,0	50,9	**4,42**	0,744	408
4.	fairways	1,4	2,8	18,2	43,4	32,1	**4,04**	0,871	415
5.	tourist zones	2,4	14,2	23,3	35,8	22,2	**3,63**	1,060	415
6.	nature parks	1,7	6,8	8,3	35,8	44,6	**4,18**	0,973	412
7.	residential areas	6,1	15,6	28,5	29,0	16,5	**3,36**	1,134	406

1-do not agree at all; 2- do not agree; 3- neither agree nor disagree; 4- do agree; 5- totally agree; M-mean score, SD-standard deviation; N –number of respondents

The respondents' attitudes confirm that all enlisted topics should be regulated by international agreements, but the indecision to the answer *neither agree nor disagree* appears with approximately

one fourth of the respondents for anthropocentric interventions in building hydroelectric power plants, tourist and residential areas. The comparison of the results of mean scores for the topics separates ecological problems as the topic about which the majority of the respondents is in agreement, and immediately after that there is the topic of nature parks. The lowest support is given to the topic of residential and tourist zones.

Within the framework Policy preferences we explored the correlation for the question *Border rivers should be managed by common international bodies* (q4.1) and *Wealthier countries through which the river flows should take more care about the ecological problems than the less developed countries* (q4.2).

The results in

Table 58 present an obvious connection between the positive answer to the question on international agreements and the three topics related to biosphere (bioreserves, ecological problems and nature parks) and two topics of the anthropocentric influence (building of hydroelectric power plants and residential zones) A lower mean score for residential zones originates in the lower support by those respondents who do not support international agreements as a solution to managing cross-border rivers. The correlation confirms the connection of the positive attitude on international agreements and the support to the regional and local level of civil services in the function of planning and managing river areas. A statistically insignificant, but negative correlation appeared only with the topic of the population by the river as a subject in planning and managing river areas.

The results point to the conclusion that the respondents as a group give support to international agreements as a negotiable mechanism for river management in transborder areas. Those respondents who express their positive attitude also presume that the agreements should primarily regulate the topics of biosphere protection in all forms of institutional protection (nature park, bioreserves), and for the human impact during building hydroelectric power plants and residential zones. The results confirm the proecological awareness of the respondents, as well as awareness of the most relevant topics for the river area, such as the building of hydroelectric power plants and residential zones as the most intensive influence in the river area. It can be assumed that the respondents recognized illegal construction as a problem in the Drava and Mura river area..

Preglednica 58 Pearson povezava med stališči o mednarodnem upravljanju z rekami in temo upravljanja ter akterji upravljanja
Table 58 The Pearson correlation between the attitude on international management bodies and management topics and the stakeholders in managing river

4.1 Cross-border rivers should be managed by common international bodies

Topics of international agreements	**Pearson Correlation**	**N**	**Stakeholders in river planning and management**	**Pearson Correlation**	**N**
Building of hydroelectric power plants	,186**	403	civil services at the national level	,086	394
bioreserves	,298**	403	civil services at the regional level	,107*	398
ecological problems	,156**	402	civil services at the local level	,193**	398
freeways	-,015	409	non-governmental organisations for environment protection	,084	402
tourist zones	,089	409	scientists and experts	,026	406
nature parks	,108*	407	population by the river	-,038	408
residential zones	,156**	402	owners of the land by the river	,051	405

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The results in Table 59, which indicate a statistically relevant correlation between the attitude on the subject of responsibility for the ecological problems and the topics of the agreement and the stakeholders in decision-making on the other side, are in favour of the claim that the links between those three topics are weak. There is a significant positive correlation between the attitude that wealthier countries through which the river flows should take more care about the ecological problems than the less developed countries and the attitude that international agreements should solve the issues in the area of nature protection. The group of respondents claiming that "wealthier" countries have a greater responsibility supports at the same time the forms of area protection (bioreserves and nature parks) as the topics of agreement and support the suggestion that the owners of the land by the river decide and manage the river area. In order to preserve the symmetricity of the results, the correlations with other items of the questionnaire were researched also with the graphic part. Table 60 offers an overview of attitudes which correlate positively and negatively with the attitude that wealthier countries are also more responsible.

Preglednica 59: Pearson povezava med stališči o odgovornosti bogatejših držav za ekološke probleme in temo upravljanja ter akterji upravljanja
Table 59: The Pearson correlation between the attitude on the responsibility of wealthier countries for the ecological problems and topics about international agreements and stakeholders in the planning and management of the river landscape

4.2 Wealthier countries through which the river flows should take more care about the ecological problems than the less developed countries.

Themes of international agreements	**Pearson Correlation**	**N**	**Actors in river planning and management**	**Pearson Correlation**	**N**
building of hydro power plants	,080	406	civil services at the national level	,089	398
bioreserves	,102*	406	civil services at the regional level	,033	402
ecological problems	,015	407	civil services at the local level	,016	402
freeways	,010	414	non-governmental organisations for environment protection	,051	407
tourist zones	,089	414	scientists and experts	,013	411
nature parks	,120*	411	population by the river	,031	413
residential zones	,048	405	owners of the land by the river	,112*	410

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Preglednica 60 Pearson povezava med stališči o odgovornosti bogatejših držav za ekološke probleme in za druga stališča v instrumentu
Table 60 The Pearson correlation between the attitudes on the responsibility of wealthier countries for the ecological problems of other attitudes in the instrument

4.2 Wealthier countries through which the river flows should take more care about the ecological problems than the less developed countries.

Positive Correlation	**Pearson Correlation**	**Negative Correlation**	**Pearson Correlation**
Vista 1B total nature and the Outdoor Recreation and Tourism Scenario	,114*	I spend time by the river angling	-,118*
Man is the absolute master of nature in which he lives and he may treat it according to his free will	,162**	I spend my time by the river in the cottage	-,119*
If some landscape is preserved and original, the culture of the population in that area is more advanced	,101*	Animals are attractive in the river area	-,118*
River landscape should be sustainably developed	,127*		
Rivers are too valuable not to be used by man	,183**		
Rivers should be preserved more than other natural environments	,142**		
Gravel excavation is important for the development of the river area	,121*		

continues

continues

Planned purpose of the river area depends on the arranged environment	,122*
Floods should be fought by concrete embankments and fortifications	,180**
Floods should be fought by bank extensions and digging of river armlets	,160**
Floods should be fought by creating lakes and hydroelectric power plants	,120*
Cottages in the river area are attractive	,172**
Swimmers by the river are attractive	,124*
Hydroelectric power plant looks attractive by the river	116*
Anglers by the river are attractive	114*
Boats in the river area are attractive	,118*

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

The results in Table 59 and Table 60 evoke the conclusion that the group of respondents in favour of the anthropocentric-egoistic orientation item takes a positive attitude on the sustainable and protective management of the river area. There is a slightly higher correlation for the flood protection by concrete embankments and fortifications than by other measures. This group of respondents finds more attractive some anthropocentric phenomena in the river area, such as cottages, hydroelectric power plants, boats and human presence (swimmers, anglers). The responsibility in relation to the economic status is probably evoked by the conflict of using resources and already used resources as well as in making claims about their preservation. The respondents more oriented toward the anthropocentric dimension do not perceive the civil service of the nature at a global level as common responsibility.

4.6 Description of the results of the total student sample

The respondents on average represent the student population who are between 20 and 25 years of age and of Hungarian, Slovenian or Croatian nationality and ethnicity. The sample represents the population declaring themselves to be Catholics in the majority. An insufficient sample of other religions made it impossible to research further the relation of this dimension with the other attitudes. The respondents represent the population who are not activists or do not have issues with the topic of environment. The respondents are distributed equally depending on whether they originate from bigger settlements, smaller settlements or from the country. A smaller percentage stems from suburban

areas. As had been assumed on the basis of previous research, the young population expressed a unique attitude that intrinsic values are more important than the extrinsic ones, so that the framework intrinsic-extrinsic lost in its importance.

A general relation of the respondents may be judged as ecocentric, where the attitudes of the anthropocentric-altruistic orientation overlap with the ecocentric orientation. The respondents expressed a preference for river landscapes in relation to total nature. At least a half of the students visited the river area on a daily basis or several times a week. From visiting rivers they had the strongest memory of the following in a descending order: natural elements, their own emotions, activities they perceived or performed and in the end the water body. If we connect the concept of water to nature, the respondents mostly remember nature. In evaluating the elements important for the development of river areas, the respondents evaluated protective topics as more important whereas the developmental topics were judged less important for the development of the river area. The students are, according to the expectations, mostly inclined toward the sustainability paradigm with a deflection to protective discourse. The confirmation is found in ranking the visualizations when the Renaturalization Scenario was proven to be ranked as the highest in total. An “error” in the distribution of answers appears with the set of scenes with the mill on the Mura where the existing civil service was judged as the best. In that sense the emotion related to the national heritage of the Croats and the Slovenians was understood as an impulse which disturbs the expectations set by the first hypothesis. The respondents express their distrust of civil services which grows reversely proportionate with the level so that they trust more the local than the national level. Thereby expressing support and legitimacy for the bottom-up planning. They also expressed support for international agreements, but there is a divide about the claim that wealthier countries should in greater percentage care for the ecological problems. The link between responsibility and better economic status is seen with the respondents who prefer anthropocentric phenomena in the river area, such as cottages, hydropower plants, boats and human presence (swimmers, anglers) and they express greater confirmation for the item of anthropocentric-egoistic attitudes.

4.7 Differences in the perception of the visual transformation of the river environment by respondent interest groups on the arrangement of the Mura and Drava riverbank area

4.7.1 Relation between the naturalness of the initial vista and the invasiveness of the modified vista

The results for the total student sample shows that 10,2% of the respondents selected the Scenario Outdoor Recreation and Tourism Vista with the mill on the Mura and 12,7% of the respondents selected

the Energy Production Scenario on the beach on the Mura and Drava confluence as the worst. Statistically significant differences are found in 11 out of 30 of the first images for the best vista and in 6 for the worst vista (Appendix D). From an overview of the percentages we can see that the Croatian cluster of respondents selected for the most parts those vistas in which recreation and tourism by the mill on the Mura were displayed, whereas Slovenian and Hungarian respondents selected this image less frequently (Table 61). A statistically significant difference appears with the selection of the worst scene. The Hungarian respondents selected it by the highest frequency (15,8%), and the Slovenian with the lowest (8,7%). The greatest difference was expressed for scene 4a (the Renaturation Scenario/Beach on Mura Confluence) (χ^2=30,34; p=0,00; App. D) in the set of the best and for the scene 1d (the Energy Production Scenario /Total Nature) (χ^2=15,868; p=0,00, App. D).

Preglednica 61: Pregled najboljših in najslabših prizorov glede na skupine madžarskih, hrvaških in slovenskih študentov
Table 61: Overview of the best and the worst Vistas by groups of Hungarian, Croatian and Slovenian students

The best Vista		%		%		%
HU	**1A**	11,7	**3A**	10,9	**2A and 4A**	9,5
HR	**3B**	14,2	**1A**	7,6	**2B**	7,2
SLO	**3B**	7,3	**1A**	7,0	**3**	6,2

The worst Vista		%		%		%
HU	**4D**	15,8	**3D**	10,9	**6D**	10,0
HR	**4D**	13,8	**1D**	13,0	**2D**	11,7
SLO	**3D**	9,0	**4D**	8,7	**2D**	8,4

n-number of original scene; A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

The responses of the Hungarian respondents stand out, whose choice of the best scenes is as a rule the scenario of renaturalization, whereas the results of the Croatian and Slovenian respondents overlap for the selection of the first two of the best. The Slovenian population chooses among three best scenes the two with the mill on the Mura (with additional tourist facilities and the original vista) but the percentage by which they were selected does not stand out as the highest. In the selection of the worst scenes all three results are related to the Energy Production Scenario, but the choice of locations is different – all selected the vista Beach on the Mura Confluence, the Hungarians also chose the mill and the bridge on Križnica, the Croats-Total Nature and the ferry, the Slovenians- the mill and the ferry.

On the basis of the comments (Appendix D) on the mill on the Mura vista, we can conclude that the Croatian and Slovenian respondents recognized the mill as a heritage category and selected vistas in the category of the best ones on impulse or, if not, we can say that they graded them according to the dimension of visible stewardship (Sheppard, 2001). The Hungarian respondents linked the

transformation of the environment as desirable with the notion of birds, non-presence of humans, non-existence of infrastructure, appearance of river plants, low greenery and extending the river edge for possible retention.

An overview of the three best and three worst vistas according to the disciplines is shown in Table 62.

Preglednica 62: Pregled najboljših in najslabših prizorov glede na skupine disciplin
Table 62: Overview of best and worst Vistas by groups of disciplines

The best Vista		%		%		%
Hard	**3B**	10,5	**1A**	7,4	**3A**	5,8
Soft	**1A**	11,9	**3B**	10,3	**2A and 3A**	8,9
Art	**3B**	8,5	**2B**	7,7	**1**	6,8

The worst Vista		%		%		%
Hard	**4D**	11,8	**3D**	10,8	**1D**	9,4
Soft	**4D**	13,3	**2D**	11,7	**6D**	11,1
Art	**4D**	14,5	**3D**	12,0	**1D**	10,3

n-number of original scene; A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

The results indicate that there is a statistically significant difference in the valuation between different disciplines for six best and three worst scenes. The greatest difference is found for Restoration/Total Nature (χ^2=13,783;p=0,003, Appendix D) in the choice of the best vista and for the Energy Production/Pedestrian Bridge Križnica (χ^2=12,98; p=0,005, Appendix D) in the choice of the worst vista.

In the selection of the best vista, the Hard and Soft disciplines selected the same three vistas, in contrast to the Artists. It may be assumed that education and the experience of analysis on the basis of visual scanning influenced the artists who perceived the consequences and effects of transformations. By selecting the Outdoor Recreation and Tourism Scenario for vistas with moderate human intervention. they express their sensitivity to evaluating possible civil service with regards to the initial state. The fact that in three best vistas they did not choose the Restoration Scenario/the Mill on the Mura may be interpreted as recognizing the mill as a cultural heritage element whose removal is not positively evaluated. Hard and Soft studies selected in their first three best vistas the RestorationScenario/the Mill on the Mura vista, which suggests that the vista was not evaluated in relation to the initial scene or that the respondents were not sensitive to the spatial element of cultural heritage.

There is a statistically significant difference in the selection of the generally worst scene – everybody chose 4d – the beach with the hydropower plant as the worst. The Hard and Art disciplines have the

same selection for three worst, whereas the respondents from social science faculties selected for the second two choices 2d and 6d –the Podturen ferry with the hydropower plants and the bridge with the hydro power plant.

Within different clusters of environmental orientations there are statistically significant differences only for the four best and one worst vista. The greatest differences are expressed for Vistas 2a (Restoration/Podturen ferry) (χ^2=11,381; p=0,00, Appendix D) and 6 (Origin Vista/Bridge on Križnica)(χ^2=8,991; p=0,00, Appendix D).

An overview of the three best and three worst vistas for environmental orientation clusters with allotted distribution are given in Table 63.

Preglednica 63: Pregled najboljših in najslabših prizorov glede na skupine okoljskih usmeritev
Table 63: Overview of best and worst Vistas by groups of environmental orientations

The best scene		%		%		%
Ecocentric	**1a**	10,6	**3b**	9,6	**2a**	9,1
Anthropocentric Egoistic	**3b**	10,0	**1a**	8,0	**3**	6,5
Anthropocentric Altruistic	**3b**	11,3	**3a**	8,3	**1a**	7,2

The bad scene		%		%		%
Ecocentric	**4d**	14,1	**3d**	11,5	**6d**	8,9
Anthropocentric Egoistic	**4d**	12,7	**3d**	9,7	**2d**	9,1
Anthropocentric Altruistic	**2d**	12,0	**4d**	11,8	**1d**	10,4

n-number of original scene; A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

The results indicate that Ecocentric orientation selected two options of the Restoration Scenario as the the best, whereas the Anthropocentric Altruistic selected 3b and 3a for the first two places. The first is the vista Outdoor Recreation and the Tourism Scenario/Mill on the Mura and the second is the Restoration Scenario /Mill on the Mura where the mill was deleted. We assume that the respondents did not perceive the mill as an important element of heritage and thus they evaluated other dimensions in the scene.

The difference between the attitudes of students and experts is not significant, although it is expected. A statistically significant difference appears for four scenes selected in the category of the best vista and there was only one in the category of the worst vista. The greatest differences were expressed for the Outdoor Recreation and Tourism Scenario/Total Nature scene (χ^2=7,648; p=0,006, Appendix D)

and the Energy Production/Beach on the Mura Confluence (χ^2=5,303; p=0,021, Appendix D). Table x provides the three selected best and worst vistas with percentages.

An overview of the three best and three worst vistas for students and experts is given in Table 64.

Preglednica 64: Pregled najboljših in najslabših prizorov za študente in eksperte glede na delež navajanja scene
Table 64: Overview of best and worst Vistas by students and experts according to percentage of choosing a scene

The best scene		%		%		%
Students	**3b**	10,2	**1a**	8,7	**3a**	7,0
Experts	**1and 3b**	9,8	**3**	9,2%	**4a**	8,5

The bad scene		%		%		%
Students	**4d**	12,7	**3d**	10,4	**2d**	9,6
Experts	**6d**	12,4	**5d**	11,1	**1d**	9,8

n-number of original scene; A-Restoration Scenario; B – Outdoor Recreation and Tourism Scenario; C-Settlement Scenario; D – Energy Production Scenario

The results indicate that the modified scenes were better evaluated than the original ones by the group of students, whereas the experts selected the original scenes for the two best ones. The groups overlap in their choice of the Outdoor Recreation and Tourism Scenario/Mill on the Mura.

The results of the vista selection for the three best and three worst scenes according to groups indicate that the respondents showed the **greatest differences within cultural/national groups.** In that sense, the selection of the vista with the mill by the Croatian and Slovenian respondents can be related to recognizing cultural heritage (Appendix D). The **Artistic discipline** stands out in their choice of the best vistas of initial intensity of visible stewardship (3 and 2), which were modified by the Outdoor Recreation and Tourism Scenario and in the selection of the Original Vista of Total Nature. The differences in the attitudes between students and experts are reflected in the selection of the best vista. The **experts** respect the existing states as such and do not evaluate the transformation as better than the original vista. There is a higher consensus for the worst vistas, and a lower for the best vistas.

4.7.2. Acceptability of functional scenarios in the river area

Ranking results (Table 65) for six sets with five vistas differ for the three national groups in most vistas. However, differences do not appear for the Energy Production Scenario in either of the variants. There is as consensus on ranking all the scenes with the hydropower plant. There is also no difference with the Restoration/Total Nature, Origin Vista/Mill on the Mura and Settlement/Pedestrian Bridge Križnica. Statistically the most significant difference can be found for the Restoration/Pedestrian bridge Križnica vista (Figure 39, χ^2=49,918, p=0,000). The Croatian respondents awarded this radical spatial move in most of the cases (58,0%) a better rank (1 or 2), whereas the Hungarians to a lower degree (22,6%).

Slika 39: Obnova / most za pešce Križnica
Figure 39: Restoration/Pedestrian bridge Križnica

	Chi-square	df	Asymp. Sig.
1	7,243	2	,027
1A	1,507	2	,471
1B	22,613	2	,000
1C	19,017	2	,000
1D	5,417	2	,067
2	12,611	2	,002
2A	19,618	2	,000
2B	17,181	2	,000
2C	38,508	2	,000
2D	1,682	2	,431
3	,311	2	,856
3A	30,821	2	,000
3B	20,844	2	,000
3C	23,984	2	,000
3D	5,505	2	,064
4	8,468	2	,014
4A	31,972	2	,000
4B	14,915	2	,001
4C	19,804	2	,000
4D	2,112	2	,348
5	2,056	2	,358
5A	19,784	2	,000
5B	22,707	2	,000
5C	2,607	2	,272
5D	5,640	2	,060
6	10,865	2	,004
6A	32,129	2	,000
6B	49,918	2	,000
6C	8,202	2	,017
6D	3,269	2	,195

Preglednica 65 Pomembnost razlik glede na razvrstitev prikazov med kulturnimi/nacionalnimi skupinami
Table 65: The relevance of differences within ranking Vistas of cultural/national groups

By comparing mean scores acquired according to the ranks, the **Hungarian students** ranked the **Restoration Scenario** to the first place in all sets. The **Croatian** cluster chooses most frequently the **Outdoor Recreation and Tourism Scenario** as the first. The **Slovenian** respondents are **most heterogeneous** in ranking vistas within sets and on three occasions put in the first place the Outdoor Recreation and Tourism Scenario, and once the Origin Vista and the Settlement Scenario.

The results in ranking between disciplines shown in Table 66 indicate that there are differences in ranking on the part of the Hard disciplines, whereas the Soft and Art disciplines rank vistas without any statistically significant difference in all sets except for the first set of images which collects all modifications of the Total nature Vista. There are statistically significant differences in fewer vistas than in groupings according to nations. As a rule, there are differences for the Settlement Scenario, and the ranking of the Settlement/Križnica Ferry points at a highest difference (Figure **40**, χ^2= 23,528; p=0,000).

Slika 40: Naselje/Splav Križnica

Figure 40: Settlement/ Križnica ferry

In the first set, the Hard and Soft disciplines rank renaturalization as first, whereas the artists rank the Original Vista as the first. For other sets, the Soft disciplines and Art ranked renaturalization as first – with the exception of the mill on the Mura which in the original vista was ranked as the first by all disciplines. The artists always rank renaturalization as first – with an exception of the set with the mill on the Mura which was ranked first in the original vista by all disciplines. The artists always rank the original vista as first or second whereas the Hard and Soft disciplines are more inclined to modified vistas and rank original scenes as third or fourth, with an exception of the mill on the Mura.

Preglednica 66: Pomembnost razlik glede na razvrstitev prikazov med različnimi disciplinami
Table 66: The relevance of the differences within ranking Vistas in different disciplines

	Chi-square	df	Asymp. Sig.
1	4,590	2	,101
1A	9,177	2	,010
1B	6,325	2	,042
1C	10,481	2	,005
1D	3,810	2	,149
2	8,468	2	,014
2A	3,993	2	,136
2B	,681	2	,711
2C	8,894	2	,012
2D	3,158	2	,206

				continues
				continues
3	3,405	2	,182	
3A	8,963	2	,011	
3B	3,122	2	,210	
3C	3,930	2	,140	
3D	,481	2	,786	
4	3,561	2	,169	
4A	17,005	2	,000	
4B	3,403	2	,182	
4C	13,500	2	,001	
4D	,369	2	,831	
5	9,570	2	,008	
5A	16,518	2	,000	
5B	5,625	2	,060	
5C	23,528	2	,000	
5D	1,501	2	,472	
6	16,083	2	,000	
6A	10,445	2	,005	
6B	5,884	2	,053	
6C	16,455	2	,000	
6D	1,479	2	,477	

The differences in ranking scenes between environmental orientations appear for seventeen out of thirty vistas, as visible in Table 67. The greatest difference according to the difference test results appears for Outdoor recreation and Tourism/Pedestrian Bridge Križnica (Figure 41, χ^2= 22,817; p=0,000). In that sense, the Anthropocentric egoistic and altruistic cluster evaluates this vista more frequently at the top of the ranking scale, whereas the Ecocentric orientation cluster is evaluated less frequently. In five out of six sets, the Ecocentric orientation and Anthropocentric-altruistic clusters ranked the Restoration Scenario as first. The Anthropocentric egoistic cluster ranked the Restoration Scenario as first only for the set of scenes Total Nature. Other first-ranked were the Tourism Scenario which was selected four times and the Settlement Scenario which was selected once.

Slika 41: Scenarij zunanje rekreacije in turizem/ most za pešce Križnica
Figure 41: The Outdoor Recreation and Tourism Scenario/Pedestrian Bridge Križnica

Preglednica 67: Pomembnost razlik glede na razvrstitev prikazov okoljskih usmeritev
Table 67: The relevance of the differences within ranking Vistas of environmental orientations

	Chi-square	df	Asymp. Sig.
1	3,361	2	,186
1A	10,344	2	,006
1B	3,268	2	,195
1C	3,186	2	,203
1D	8,506	2	,014
2	5,061	2	,080
2A	15,912	2	,000
2B	4,216	2	,121
2C	10,695	2	,005
2D	6,541	2	,038
3	1,618	2	,445
3A	11,552	2	,003
3B	6,176	2	,046
3C	9,887	2	,007
3D	2,720	2	,257
4	,997	2	,608
4A	6,018	2	,049
4B	1,477	2	,478
4C	8,389	2	,015
4D	,534	2	,766
5	1,200	2	,549
5A	9,538	2	,008
5B	4,021	2	,134
5C	3,581	2	,167
5D	7,659	2	,022
6	8,975	2	,011
6A	11,684	2	,003
6B	22,817	2	,000
6C	9,825	2	,007
6D	11,884	2	,003

There is a statistically significant difference for nine out of thirty vistas when students' and experts' answers were compared (Table 68). Thus this comparison of scene ranking by students and experts showed the fewest differences in ranking. The Mann-Whitney test was applied, which showed the greatest difference for the Original Vista/River ferry Podturen (Figure 42, U= 6589,000), selected by the experts for the first two places in the ranking scale. The lowest difference is noticed for the selection the Energy Production Scenario on the Križnica ferry.

Slika 42: Izvirni prikaz/Sšlav Podturen
Figure 42: The Original Vista/River ferry Podturen

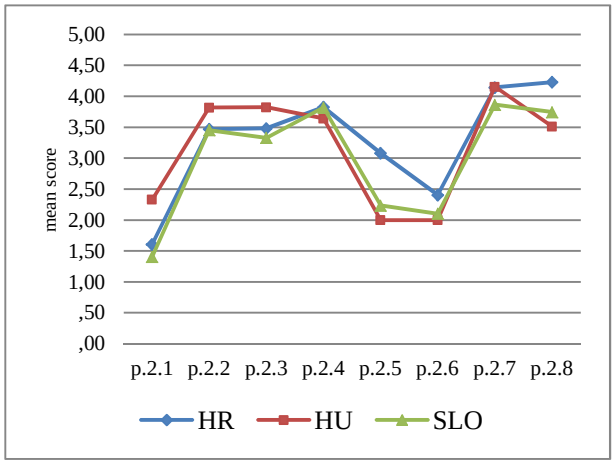
Preglednica 68: Pomembnost razlik glede na rankiranje prikazov s strani študentov in strokovnjakov
Table 68: The relevance of differences within ranking Vistas by students and experts

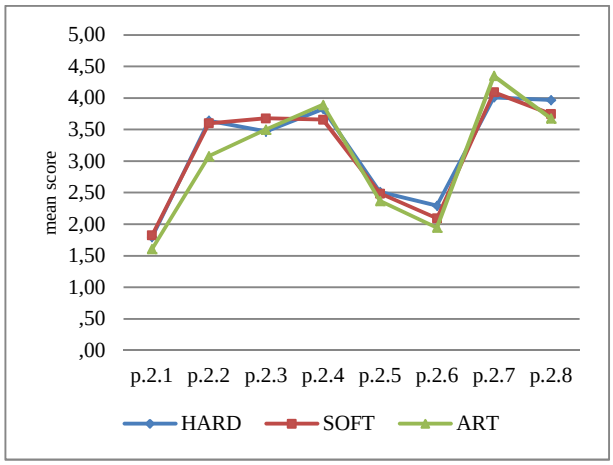
	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
1	6927,500	8008,500	-2,364	,018
1A	7178,000	78809,000	-2,097	,036
1B	6841,000	7922,000	-2,461	,014
1C	7473,000	79104,000	-1,622	,105
1D	7448,000	79079,000	-1,723	,085
2	6589,000	7670,000	-2,745	,006
2A	8417,000	9498,000	-,338	,735
2B	8396,000	9477,000	-,365	,715
2C	6974,000	78227,000	-2,284	,022
2D	7818,500	79071,500	-1,285	,199
3	7939,000	9020,000	-1,022	,307
3A	7561,500	79192,500	-1,485	,138
3B	7903,000	8984,000	-1,058	,290
3C	8622,000	9703,000	-,101	,920
3D	8235,500	79866,500	-,763	,446
4	7858,500	8939,500	-1,135	,256
4A	8581,500	9662,500	-,151	,880
4B	8532,000	80163,000	-,217	,828
4C	8111,000	79742,000	-,813	,416
4D	8520,000	80151,000	-,294	,769
5	8561,500	80192,500	-,176	,860
5A	6915,000	78546,000	-2,438	,015
5B	7120,500	8201,500	-2,073	,038
5C	8390,500	9471,500	-,403	,687
5D	8689,500	9770,500	-,007	,994
6	8152,500	9233,500	-,656	,512
6A	7879,000	78755,000	-1,024	,306
6B	7106,000	8187,000	-2,027	,043
6C	6646,500	77522,500	-2,642	,008
6D	8562,500	79438,500	-,127	,899

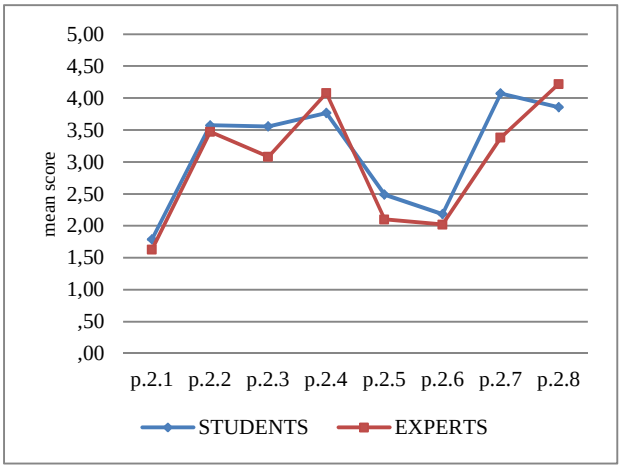
When checking the differences among all interest groups and when comparing cultural/national groups the highest difference is shown for the Restoration/Pedestrian bridge Križnica vista (Figure 39, χ^2=49,918, p=0,000). Cultural/national clustering presents the total highest number of differences in the rankings, with least agreement expressed for the Outdoor Recreation and Tourism Scenario, and the most for the Energy Production Scenario. If respondents are grouped as students and experts, thee are minimal differences. There is a noticeable consensus for the sets 3 (Mill on the Mura) and 4 (Beach on the Confluence of the Mura) for which there are no statistically significant differences. Different disciplines express the highest differences for the Restoration Scenario. When grouping respondents according to Environmental orientations there are expressed differences in ranking all vistas in the set 6 (Pedestrian Bridge Križnica) and the Restoration Scenario.

4.7.3 Motivational values of the nature

The comparison of mean scores for the answers on the scale from 1 to 5 to the set of questions on the relationship of man to nature, culture and technology is given in Appendix E and indicates that there are most clear-cut differences within the division according to the culture/nation (items q2.1, q2.2, q2.3, q2.5, q2.6, q2.7, q2.8) and between the groups students vs. experts (items q2.3, q2.4, q2.5, q2.7, q2.8). The attitudes are least differentiated according to the division of the respondents into hard, soft and art disciplines. The statistically most significant difference is for the item 2.5 *The river should serve man only for leisure, recreation and enjoying the view* (F=42,660; p=0,000, Appendix E), if the respondents are observed as different cultures/nations. A group of Croatian students is more positive toward the statement than the Slovenian and Hungarian respondents.







Slika 43: Primerjava povprečnih rezultatov doseženih točk ocen osem vprašanj o odnosu med človekom, naravo, kulturo in tehnologijo interesnih skupin
Figure 43: Comparison of the mean score results of stakeholder evaluations of eight questions about the relationship between man, nature, culture and technology

Within the cluster, there is no statistically significant difference only for the item q2.4 *Rivers connect physically and culturally the areas through which they flow.* (F=1,413; p=0,245; Appendix E). Within the students and experts cluster the most significant difference is seen for item q2.7 *Nature protection has preference over all other tasks in the society* (F=24,920; p=0,000; Appendix E). Students express a stronger proecological protective attitude than experts. The differences in major subjects of interest/disciplines are found in items q2.3, qp2.4, q2.7 and q2.8., and the statistically highest difference in the students vs. expert cluster is found for item q2.7 (F=9,837; p=0,000; Appendix E) where the Art discipline expressed the most positive and Hard discipline a least positive attitude.

On the basis of factor analysis on items 2.1 to 2.8, three factors were established and defined as Ecocentric, Anthropocentric-egocentric and Anthropocentric-altruistic. Table 69 provides a distribution of respondents according to the appropriate cluster of environmental orientation for the observed interest groups divided into the cultural/national cluster.

Preglednica 69: Delež kulturnih/nacionalnih skupin v posameznih okoljskih usmeritvah
Table 69: Share of cultural/national clusters in the environmental orientations

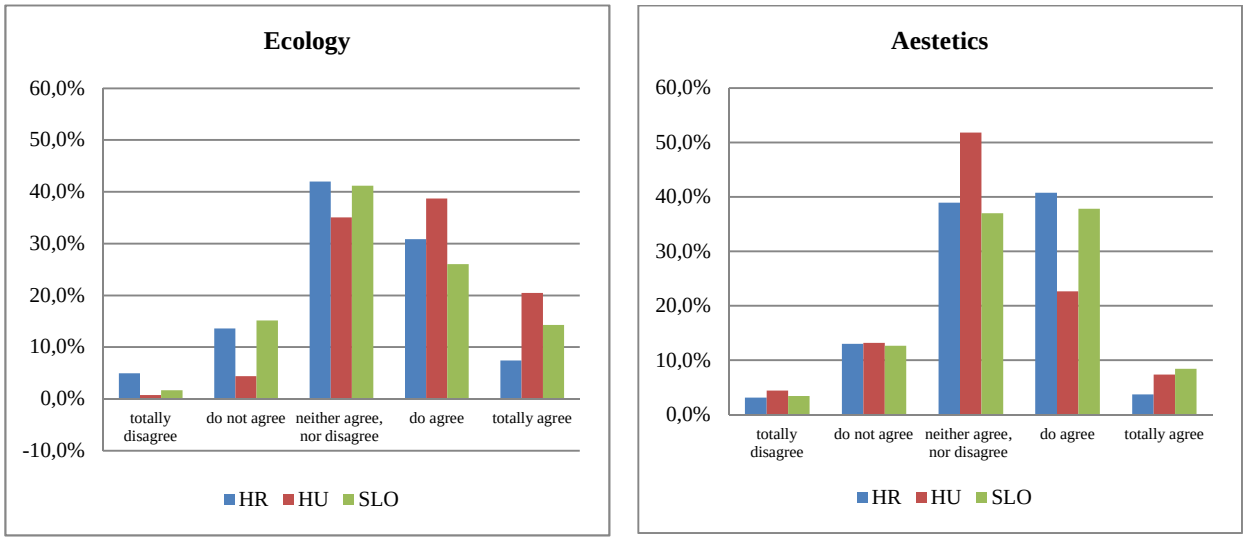
			HU	HR	SLO	Total
Cluster	**Ecocentric**	**Number**	75	30	33	138
		Cluster	54,3	21,7	23,9	100,0
		within Total Sample	59,1	19,2	30,0	35,1
	Anthropocentric egoistic	**Number**	41	35	37	113
		Cluster	36,3	31,0	32,7	100,0
		within Total Sample	32,3	22,4	33,6	28,8
	Anthropocentric altruistic	**Number**	11	91	40	142
		Cluster	7,7	64,1	28,2	100,0
		within Total Sample	8,6	58,3	36,4	36,1
	Total	**Number**	127	156	110	393
		Cluster	32,3	39,7	28,0	100,0
		within Total Sample	100,0	100,0	100,0	100,0

The distribution according to culture/nation shows the following taxonomy of respondents: the Hungarians mostly expressed ecocentric attitudes (59,1%) and declared themselves the least as Anthropocentric-altruistic (8,7%). Unlike them, the Croatian students expressed most frequently the attitudes of the Anthropocentric-altruistic cluster (58,3%), and then equally of the Anthropocentric-egoistic (22,4%) and Ecocentric cluster (19,2%). The Slovenes are most uniformly distributed for all three clusters with a slighter divergence for the Anthropocentric-altruistic cluster (36,4%). According to the results, it can be observed that the Hungarians are the most homogenous nation regarding the distribution within the cluster, whereas the Slovenes are the most dispersed group. This is the point where the difference according to the national grouping becomes visible and shows the differences in relation to the results of the total sample. The shift of the Hungarian respondents toward the Ecocentric Environmental orientation negates the hypothesis according to which we assumed stronger proecological attitudes of the Slovenian respondents, taking into consideration their position on the map of expressive values (Inglehart and Welzel, 2010). Cifrić (2008) reported on the different results in the Croatian representative sample, according to which the profile of an ecocentric is the person who respects highly traditional values (religious persons), persons over the age of 65, less educated people, widowers, independent private contractors, respondents who support the central political option and women. It may be assumed that some other options influenced such a distribution of respondents in environmental dimensions. Attachment to the place (Buijs, 2009) very strongly shapes

environmental orientations, as does the geographic distance from the subject the attitudes are researched for (Tress and Tress, 2000). Here we can assume that a different river character in those three towns where the respondents are currently residing influenced their forming of opinion. So that Hungarian respondents, whose river does not have an organized everyday town life along its flow, are to a lesser degree exposed to the natural phenomenon of the river and in line with that project an Arcadian image of nature and evaluate it according to that image, and not the experiential image possessed by the Slovenian and Croatian respondents.

4.7.4 Resources for planning the river landscape

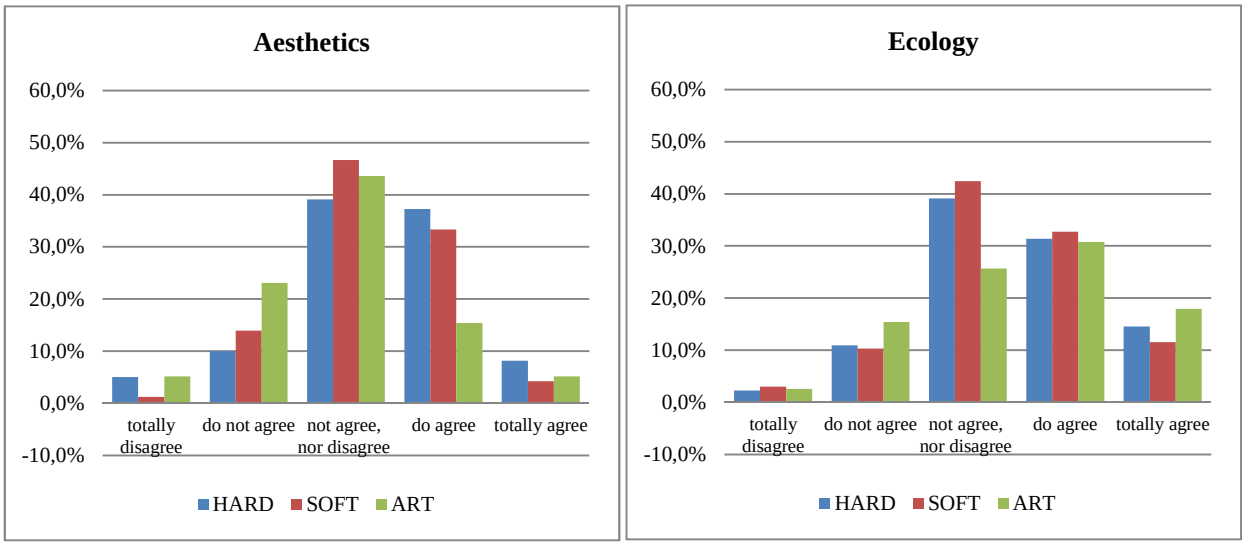
In Figure 44 there is evaluation of items of aesthetic and ecological dimension of the river area (q10.1 and q10.5) in the context of other natural landscapes and for comparison of cultural/national groups.



Slika 44: Delež odgovorov kulturnih/nacionalnih skupin na estetske in okoljske vrednostne dimenzije
Figure 44: The response rate of cultural/national clusters to the aesthetic and environmental value dimension

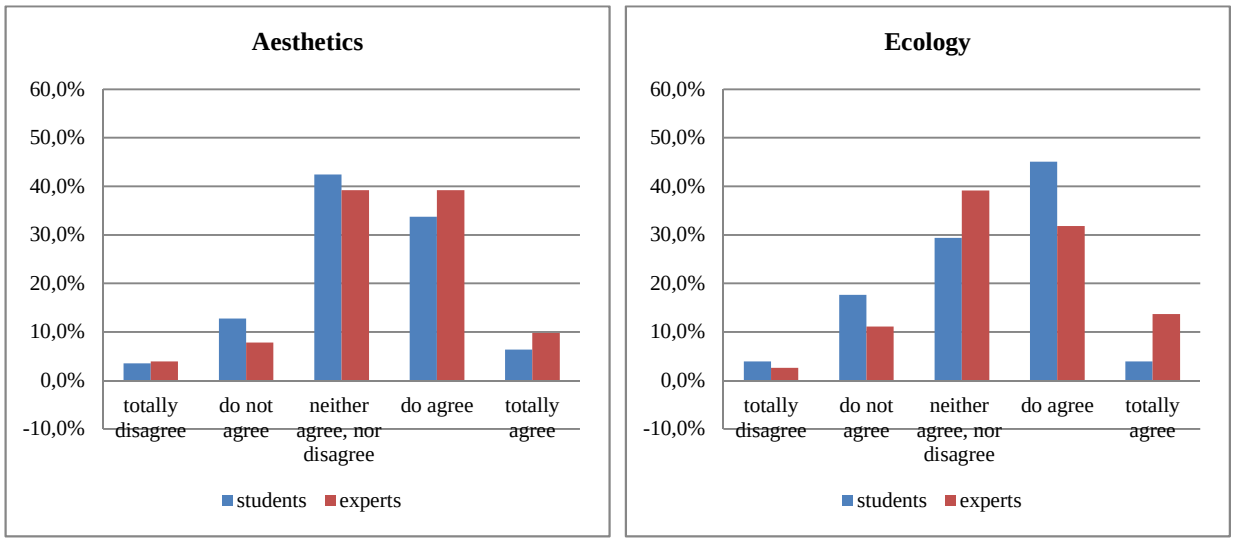
The distribution of results which show evaluation of the aesthetic dimension of the river area in comparison to other natural areas is proportionally symmetric in Hungarian respondent, with a high percentage of undecided (51,8%), but with a positive trend (Appendix F). The frequency of the positive results is higher among Croatian and Slovenian respondents.

There is a noticeable dominant indecision among the Slovenian and Croatian respondents, whereas the Hungarian respondents have a more positive attitude to the need for greater protection of river areas in relation to other natural landscapes. There is a statistically significant difference between national groups only for the ecological dimension (F=11,879; p=0,000; Appendix F). the difference in cumulative results (answers 4+5) indicates a more positive attitude of the Hungarian respondents, whereas it is dominantly undecided with the Croatian and Slovenian respondents.



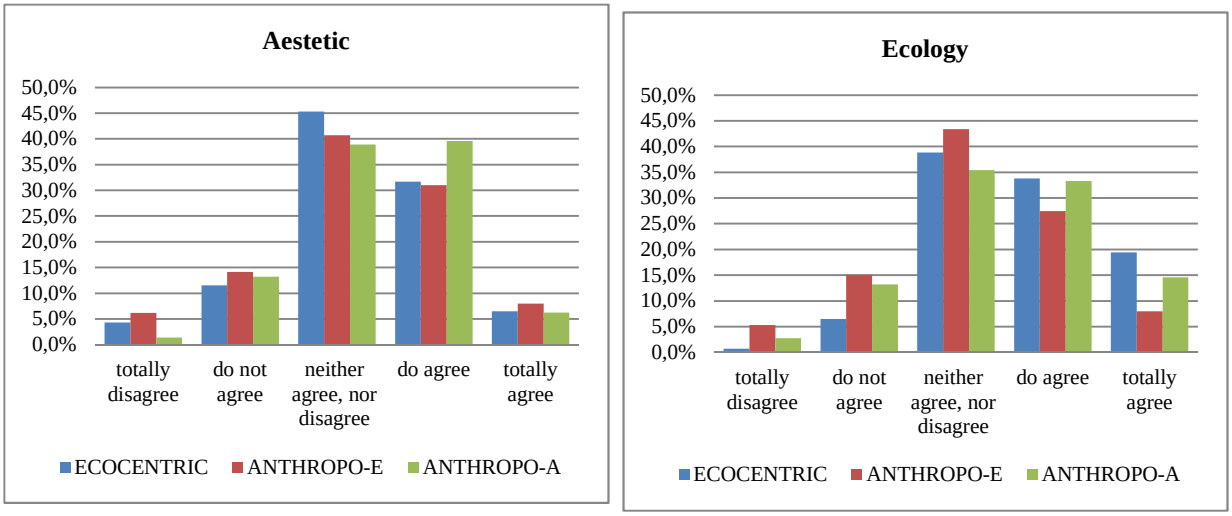
Slika 45: Delež odgovorov skupin različnih disciplin na estetske in okoljske vrednostne dimenzije
Figure 45: The response rate of different disciplines to the aesthetic and environmental value dimension

Unlike national clusters, there is a statistically significant difference in comparing disciplines in the case of the Aesthetics dimension (F=2,812; p=0,039; Appendix F). Although all professions are intensively undecided, the artistic profession stands out with its negative trend (28,5%). Other disciplines are in a positive trend. The Ecology dimension is seen as important, especially for the river area, by all three professions, where hard and soft disciplines are dominantly undecided, and the artistic discipline is in a apositive trend. It can be concluded that the disciplines are variously sensitive to the Aesthetics and Ecology dimensions of river areas in comparison to other natural landscapes. In that sense, the respondents from the artistic discipline stand out with their stronger support for the Ecology than the Aesthetic dimension, which can be explained as their awareness of the multidimensionality of the concept of scenic beauty which is created as a consequence of education and the focus of interests.



Slika 46: Delež odgovorov skupin študentov in strokovnjakov na estetske in okoljske vrednostne dimenzije
Figure 46: The response rate of students and experts to the aesthetic and environmental value dimension

The comparison of students and experts in Figure 47 did not show a statistically significant difference. However, the answer percentages show that experts are more aware of the positive aesthetic dimension of river landscapes even though they do not see any advantage of rivers in comparison to other natural landscapes when it comes to the protection dimension. Students are dominantly undecided (42,5%) in the Aethetics dimension, but they respond in a positive trend for the Ecology dimension.The influence of education



Slika 47: Delež odgovorov skupin okoljskih usmeritvah na estetske in okoljske vrednostne dimenzije
Figure 47: The response rate of environmental orientations to the aesthetic and environmental value dimension

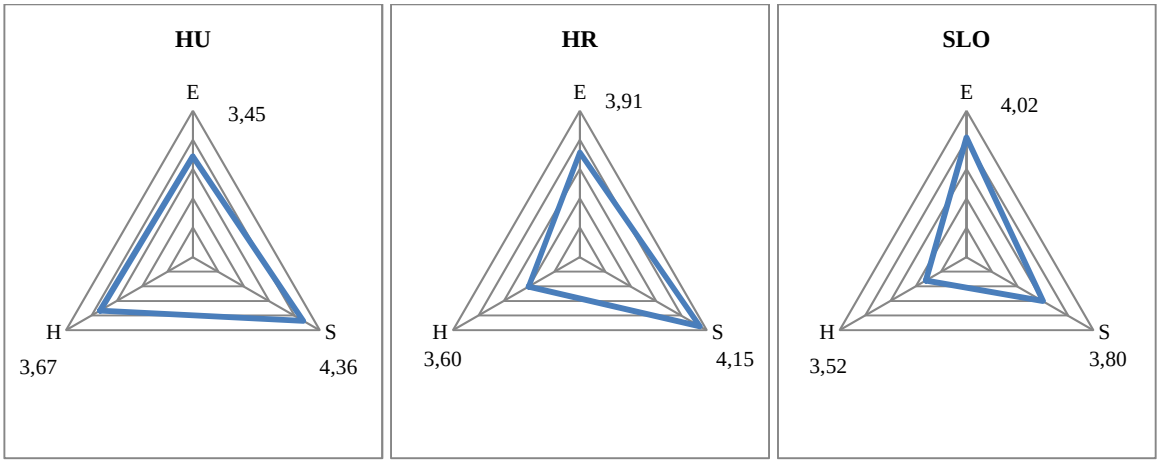
and experience influenced the forming of such a difference in attitudes.

A statistically significant difference appeared in the Protection dimension when three environmental orientation clusters were compared (F=7,661; P=0,001, Appendix F). The Anthropocentric-altruistic cluster stands out with its positive results for the Aesthetics dimension, whereas the Ecocentric cluster has the most positive trend in the Ecology dimension for rivers when compared to other natural landscapes.

In the total sample, rivers are thought to be **more beautiful** than other landscapes by the **Croatian** respondents, the **hard** discipline, the **experts** and respondents from the **anthropocentric-altruistic** cluster**. The ecological dimension** of rivers is thought more important when compared to other landscapes by the **Hungarian** respondents, the students of **Arts academies,** and respondents in the **Ecocentric orientation**.

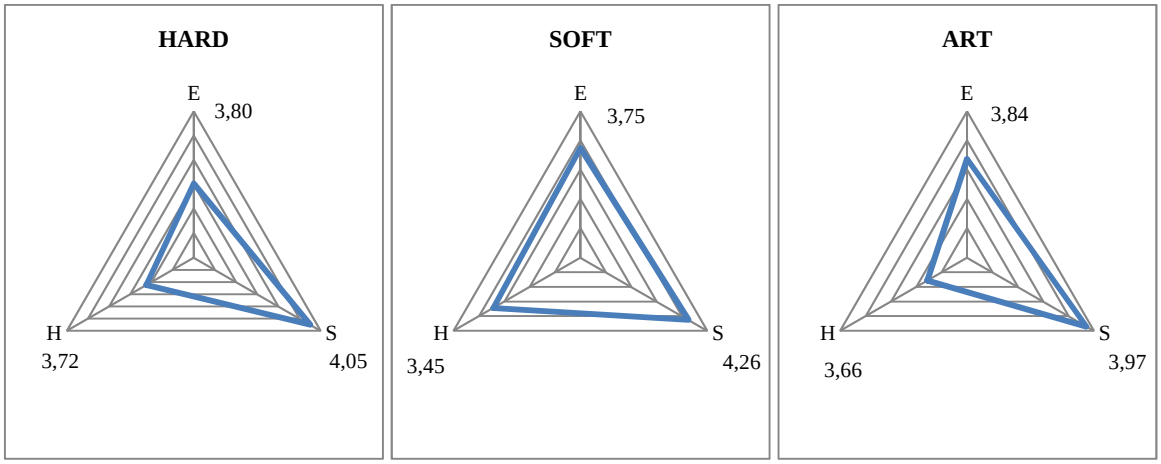
Three items in question 10 (q10.2, q10.3 and q10.4) researched the respondents' attitude on the direction of the development of the river area which had been assumed as Environmental needs (birds and trees), Human needs and Sustainability. Mean scores for the results are shown in Figure 48, Figure 49, Figure 50 and Figure 51 and Appendix D.

There are statistically significant differences between respondents of different nations for q10.2 (birds and plants; F= 15,608; p=0,000, Appendix G) and q10.3 (Sustainability; F=15,227; p=0,000, Appendix G). Results distribution points at a conclusion that Hungarian students gave equally positive responses to all three options for the river area. Furthermore, the Croatian respondents evaluated sustainable development as the most positive, while the Slovenian respondents gave the most positive mean score to the component of nature as the most important subject in the river landscape.



E-Environmental needs; H-Human needs; S-Sustainability;

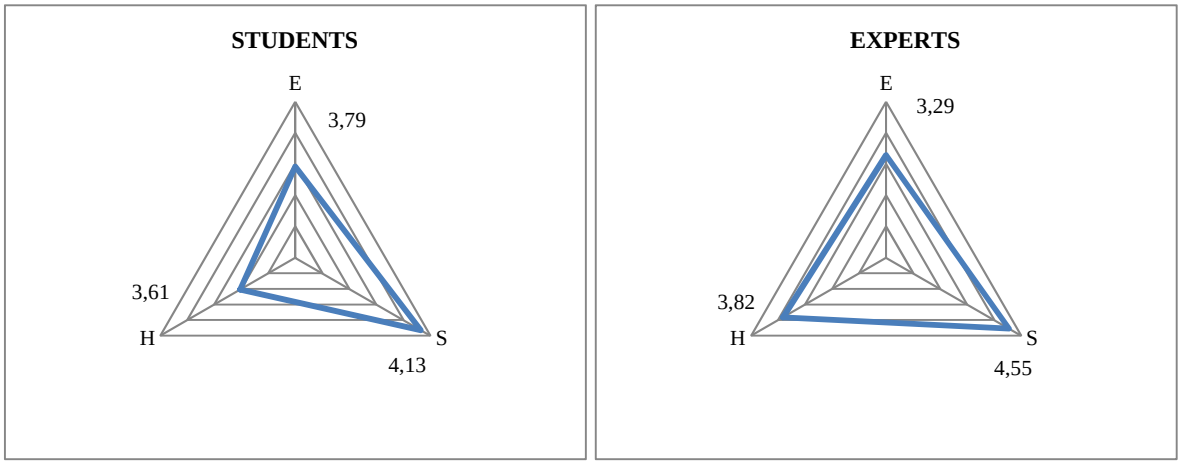
Slika 48: Primerjava povprečnih rezultatov kulturnih/nacionalnih skupin na želeno smer razvoja obrečne krajine
Figure 48: Comparison of mean scores of cultural/national groups for the desired direction for the development of the river area



E-Environmental needs; H-Human needs; S-Sustainability;

Slika 49: Primerjava povprečnih rezultatov različnih disciplin na želeno smer razvoja obrečne krajine
Figure 49: Comparison of mean scores of different disciplines for the desired direction of the development of the river area

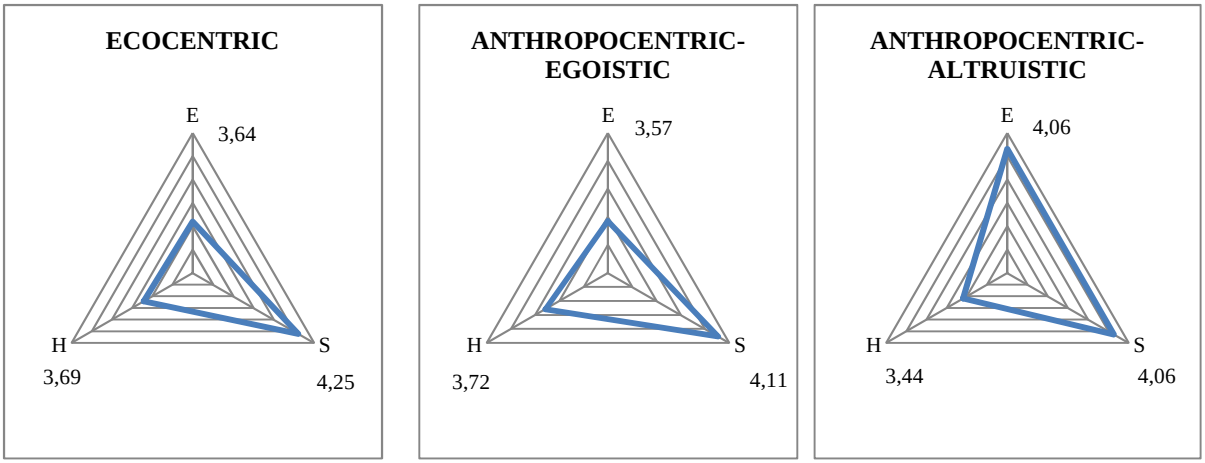
We can find statistically significant differences between disciplines as well as with nations, but to somewhat lowere value scores. It may be noticed that in all three disciplines, Sustainability was evaluated with the highest mean score. A mutual comparison of mean scores shows that the respondents in soft disciplines are the most homogenous group in their selection, while artists and hard disciplines were more decisive in chosing Sustanability in comparison to the other two responses.



E-Environmental needs; H-Human needs; S-Sustainability;

Slika 50: Primerjava povprečnih rezultatov skupin študentov in strokovnjakov na želeno smer razvoja obrečne krajine
Figure 50: Comparison of mean scores of students and experts for the desired direction of development of the river area

Students as a total sample ranked high Sustainability and in comparison to other two items gave it precedence, where Environmental needs were better ranked than Human needs. There is a difference in the experts' attitudes whose mean score for Human needs is higher than for Environmental needs.



E-Environmental needs; H-Human needs; S-Sustainability;

Slika 51: Primerjava povprečnih rezultatov skupin okoljskih usmeritvah na želeno smer razvoja obrečne krajine
Figure 51: Comparison of mean scores of environmental orientations for the desired direction of development of the river area

By comparing the results for clusters of environmental orientations, we can see that the Ecocentric orientation recognizes Sustainability as a desirable direction of development, whereas the Anthropocentric-altruistic evaluates as equally important both Environmental needs and Sustainability. The overlap of orientational domensions was mentioned already in the chapter Foundation for the Study, and which is evidently shown here (Schultz, 2001). We interpret the results bearing in mind that the focus is directed to the river area. We assume that the Ecocentric orientation cluster evaluates river areas by a value system similar to total nature. In the Ecocentric cluster we mostly find the female population (72,5%) and the Hungarian respodents (54,3%) whose experience and attachment to the river and real environment is different from the respondents who opted for the Antropocentric-altruistic cluster. There is a hypothesis that the protection of natural needs in the Anthropocentric-altruistic cluster (28,2% of the Slovenian and 64,1% of the Croatian students) was evaluated as important for a specific river area and that the value system of this orientation is closer to the ecocentric for a specific observed area. The profile of the respondents who stand out form the total sample are the Slovenian respondents who ranked Environmental needs higher than Human needs and Sustainability and experts who responded positively with 100% to the Sustainability paradigm.

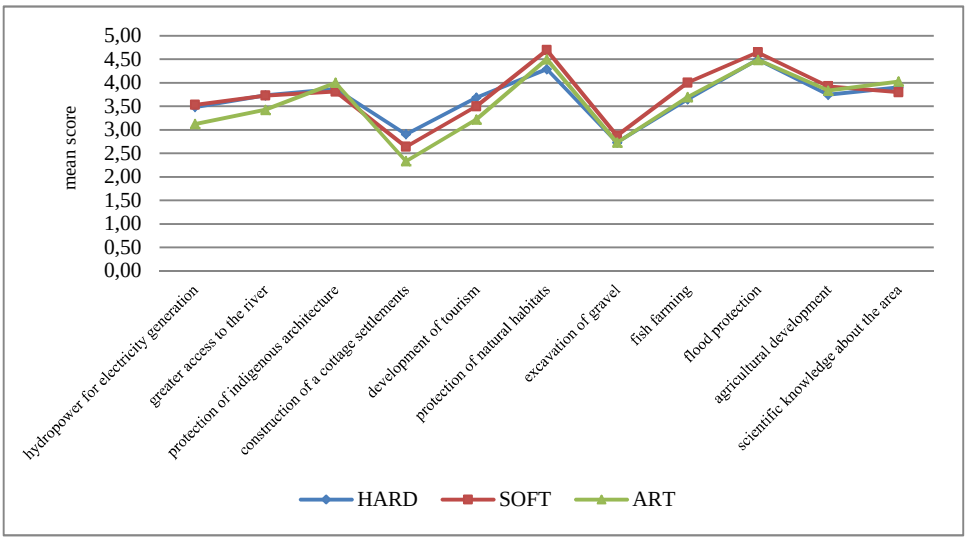
The attitudes of groups according to the topics which were ranked as important for the development of the river area are shown in Figure 52, Figure 53, Figure 54 and Figure 55, as well as in Appendix 8. When comparing the test results for statistically significant differences, we can notice that the attitudes of cultural/national groups vary in the largest number of concepts, which is shown by the fact that the

difference is expressed for all concepts except for the last concept, scientific knowledge (q11.11). The next group according to the number of expressed differences is the one for different environmental orientations (for q11.1, q11.3, q11.6, q11.7, q11.9, q11.10, q11.11), then Disciplines (q11.4, q11.5, q11.6, q11.8, q11.9) and students and experts who differ only in the concept of creating cottage settlements (q11.4) and fish farming (q11.8). According to the mean scores, the total sample distinctively divided concepts into the protective, which were ranked with higher grades, and into the developmental (anthropocentric), which were raked lower, as in the total sample. By using the comparison according to the interest groups, we researched the differences in preference for the quoted concepts in the context of the development of the river area.

Slika 52: Primerjava povprečnih rezultatov kulturnih/nacionalnih skupin o pomembnosti navajanih temah za razvoj obrečne krajine
Figure 52: Comparison of mean scores of cultural/national groups based on the importance of issues for the development of the river area

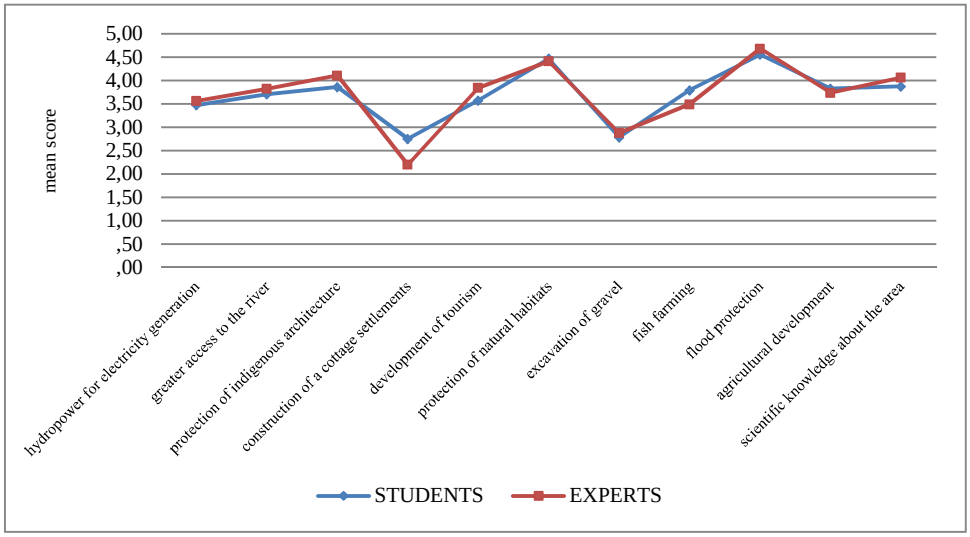
The highest statistically significant difference was expressed for the concepts of **fish farming** (F=41,696; p=0,000; Appendix H), **flood protection** (F=30,735, p=0,00; Appendix H) and **construction of a hydropower plant** (F=23,225; p=0,000; Appendix H). In contrast, the difference for the concept of the **scientific knowledge about the area** is not significant (F=0,233, p=0,793; Appendix H). Accent is put on the Hungarian respondents' attitudes which present a more positive result for all three concepts for which a difference was established. Result distribution of mean scores indicates that the Hungarian respondents perceive the hydropower plant as more important for development than it is considered by the Croatian or Slovenian respondents. The same was confirmed in the results with graphic interventions (circling and crossing out) in vistas for the Energy Production Scenario in which the Hungarian respondents chose more frequently as a negative element the traffic infrastructure than the object of the hydropower plant. A possible assumption in this case would be that the position of the Hungarian nation as a cultural group is closer to the values of the Survival Scenario in Inglehart and Welzel's map of world cultures (2010), which results in value attitudes

which are oriented to economic development more than is the case with the Slovenian and Croatian respondents. A question could be asked which are the concepts that were set apart by particular nations as the most or the least important and where do the differences lie. By comparing mean scores we may notice that the answers by all three nations are very similar. In the first and the last two places they put the same concepts, so that the construction of cottage settlements and gravel excavation are the concepts least likely to be related to the development of the river area, whereas the most important concepts for all three nations are the protection of natural bird habitats and flood protection. The contents found in between those two extremes vary and a difference is noticed when it comes to supporting fish farming by Hungarian students and the opposite is expressed by the Slovenian students. The results in attitudes to fish farming are contradictory when compared to the data on the average fish consumption for the Slovenes and Hungarians (FAO Fisheries Circular No. 972/4, Part 1, 2007; Table 3-1, p18) where it is mentioned that consumption is higher in Slovenia. In Slovenia it is 7 kg/capita/year and in Hungary it is 4 kg/capita/year (according to the average for 1994-1998). The results are on the level for national data, whereas the research was conducted on a convenient sample of the student population whose dietary habits had not been researched. According to the results of mean scores, all three nations support the statement that flood protection is the most important facet in the development of the river area. The extremely positive evaluation of the statement may be related to the events which were happening on a local level on the river Kapos in May 2010 when the river flooded and endangered residential and economy objects. Protection measures were undertaken, such as sandbag dykes. Although the Kapos does not flow through the central part of the town, a natural disaster could have shaped the attitude of a group of respondents related to the importance of flood protection through the experience of the flood itself.

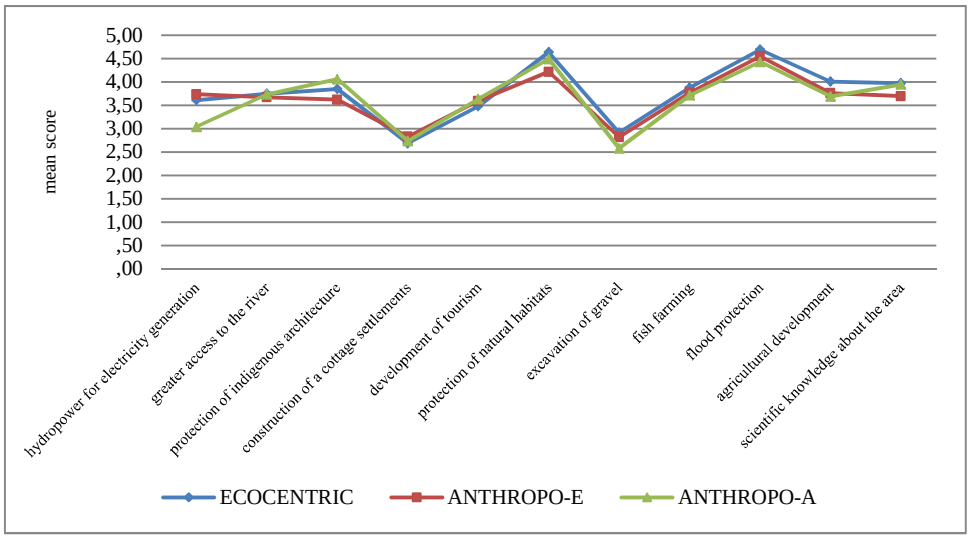


Slika 53: Primerjava povprečnih rezultatov različnih disciplin o pomembnosti navajanih tem za razvoj obrečne krajine
Figure 53: Comparison of mean scores for different disciplines based on the importance of issues for the development of the river area

Differences between **disciplines** were established for the concepts of **cottage settlements, development of tourist offer, protection of natural bird habitats, fish farming and flood protection. Students and experts** are homogenous in their attitudes and differ only in the concepts of constructing **cottage settlements and fish farming.** In all three observed groups fish farming is the concept resulting in different attitudes. The greatest differences in attitudes are found in the concept of constructing cottage settlements.



Slika 54: Primerjava povprečnih rezultatov študentov in strokovnjakov o pomembnosti navajanih tem za razvoj obrečne krajine
Figure 54: Comparison of mean scores for students and experts based on the importance of issues for the development of the river area



Slika 55: Primerjava povprečnih rezultatov skupin okoljskih usmeritvah o pomembnosti navajanih tem za razvoj obrečne krajine
Figure 55: Comparison of mean scores for environmental orientations based on the importance of issues for the development of the river area

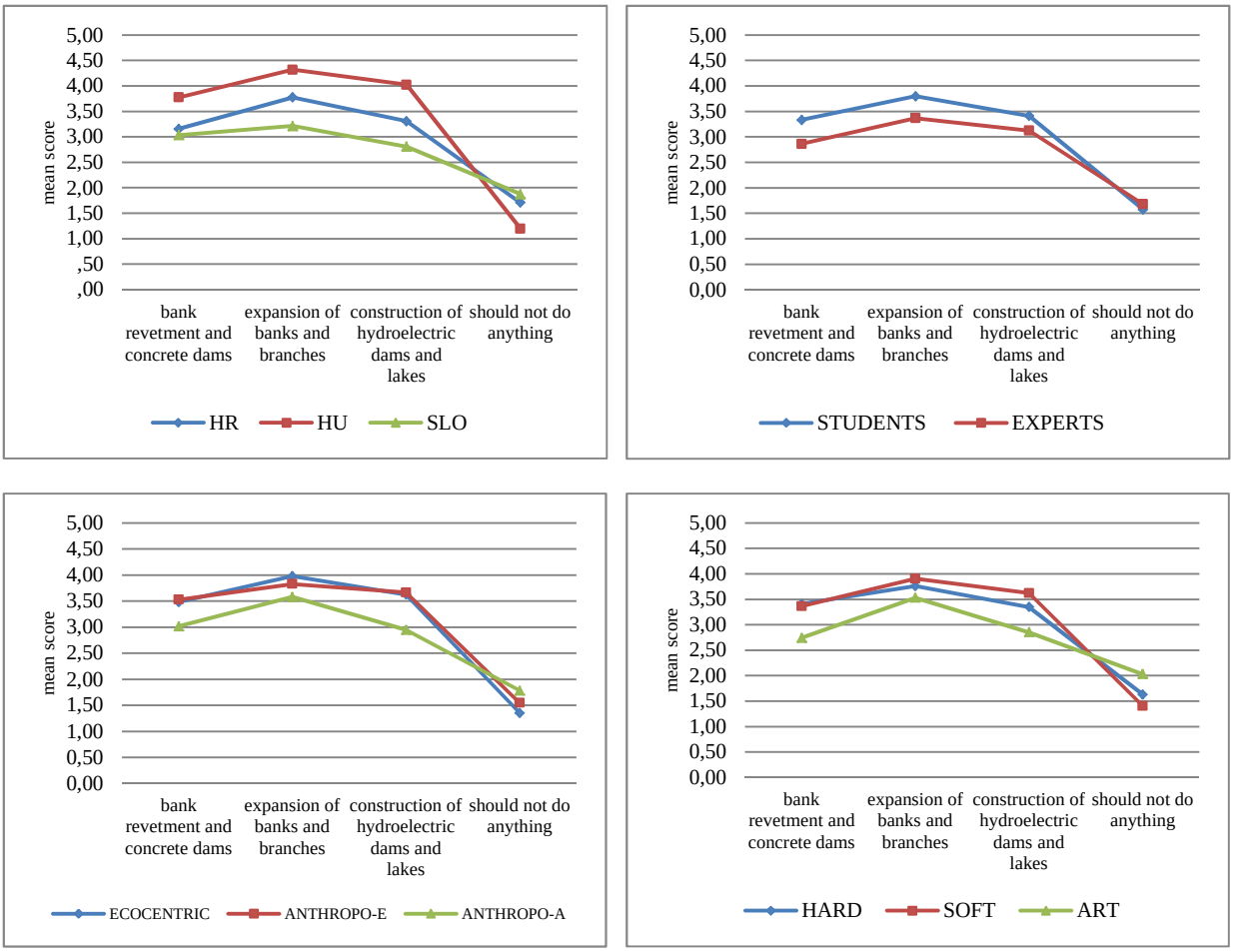
By comparing the hard, soft and art disciplines we may notice that hard disciplines also do not perceive fish farming as an important profession and neither do experts, whereas soft disciplines place

this concept immediately in third place according to the expressed support related to the development of the area. A general attitude of the total sample places fish farming in the middle of the scale.

On the basis of the gathered data it can be concluded that the attitudes of the total sample do not differ from the results expressed in groups according to culture/nation, disciplines and in students vs. experts divisions for concepts to which highest or lowest support was given, but the difference may appear in concepts between those extremes. There is an expressed difference for the topic of **cottage settlements** and **fish farming. T**he most positive influence of cottage settlements for the development of the river area is seen by the **Croatian respondents** and the least positive by the group of **experts.** Fish farming is most positive for the Hungarian culture group, and it is the least positive for the Slovenian group. For the Hungarian respondents, the hydropower plant is more important for the development of the area than it is for the Slovenian and Croatian respondents. .

4.7.5 Flood risk management

Taking into consideration that flood protection is in its pilot study stage (Stober, 2011) and was stressed as the most important concept, the aim was to investigate how respondents evaluate different methods of flood protection. Although students of civil engineering, who were grouped as respondents in the hard discipline, are to a higher degree educated in the field of hydro technical interventions, they did not stand out by their developmental or proecological attitude in spite of our expectations. However, it was grouping along the nationality line which again showed the greatest differences in attitudes. The least differences are shown in comparing students and experts whose answers are statistically significantly different only in the attitudes about flood protection by concrete embankments (F=7,306; p=0,007; Appendix I) and dykes (F=7,777; p=0,006; Appendix I). In other groupings, the differences are found with disciplines for all suggested measures, and mostly for concrete embankments (F= 5,820; p=0,001; Appendix I). Environmental orientation clusters show statistically significant differences for all flood protection measures, and the highest is for building lakes and hydropower plants (F=16,724; p=0,000; Appendix I). There was an intriguing radical attitude “nothing is to be done” which was detected in the art group in the division according to disciplines.



Slika 56: Primerjava povprečnih rezultatov različnih interesnih skupin o metodah zaščite pred poplavami
Figure 56: Comparison of mean scores for stakeholders on methods of flood protection

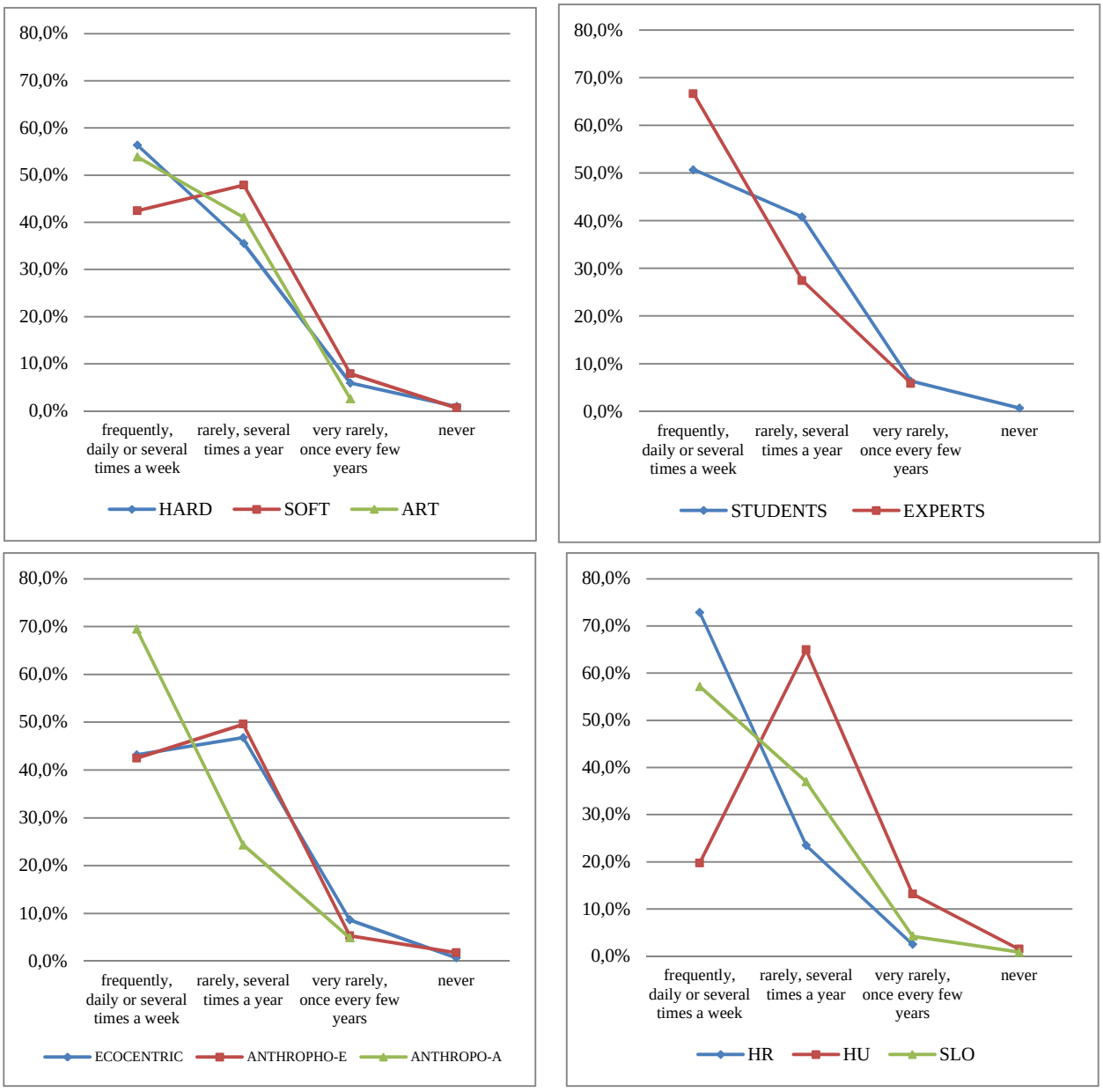
According to Appendix 6, all suggested measures, such as bank extensions and digging of river armlets, fortifications, trenches, lakes and hydropower plants are acceptable, whereas the majority found the measure of doing nothing as unacceptable. There was an expressed difference within national attitudes so that Slovenes express a different attitude than Croats and Hungarians on the issue of flood protection. We have also noticed an environmental radicalism on the part of the art profession whose protagonists civil service with the percentage of 17,9% that nothing should be done.

Figure 56 shows a comparison of results for accepting the suggested measure of flood protection. The biggest difference in national attitudes is found in the evaluation of the acceptability of the flood protection by bank extensions and digging of river armlets (F=47,199, p=0,000; Appendix I). The respondents from all three nations consider this measure to be the most acceptable. After having checked the results for a single nation we can see that Slovenian students give preference to concrete embankments and trenches rather than to hydropower plants, unlike the Hungarian and Croatian students, and that such an attitude is found in the hard disciplines group as well. The attitude that nothing should be done is to the highest degree advocated by Slovenian respondents and the arts discipline group. This could be interpreted in part as a proecological public and media attitude in the Slovene region and with less frequent experience of floods in the Slovene region. The Art profession is the most inclined not to undertake anything in this case and expresses its proecological radical attitude which could be interpreted by not having been educated about the consequences of flood aftermaths and about the flood protection measures or by an idealized picture of a virgin, Arcadian nature as the favoured supreme beauty.

The data gathered point to the conclusion that non-invasion measures without any hydro technical interventions are the most acceptable measures for flood protection. The Hungarian respondent group was the most intensive in advocating counter flood measures, which was additionally supported by the results which indicate the lowest support to the radical attitude of “nothing is to be done”.

4.7.6 Attachment to the river

Differences in the frequency of visiting the river landscape is the most expressed in the case of national grouping of respondents (Figure 57, χ^2=91,114; p=0,000; Appendix J). The Hungarian sample visits the river less frequently in a daily or everyday rhythm, while the Croatian respondents visit it most frequently.

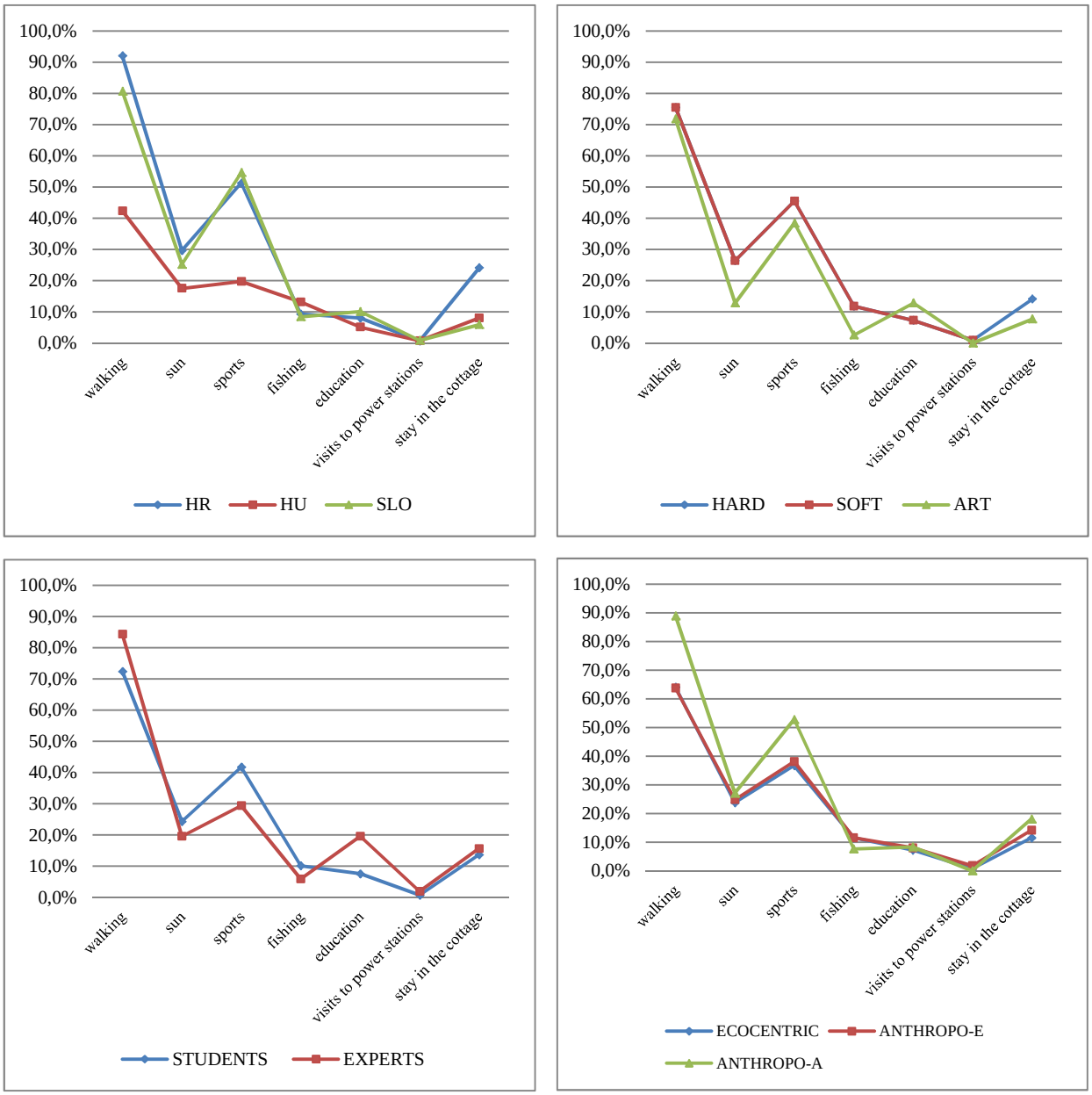


Slika 57: Delež odgovorov interesnih skupin o frekventnosti obiska obrečne krajine
Figure 57: The response of stakeholders on the frequency of visits to the river area

In this case the grouping did not show any significant differentiation according to the disciplines, (Appendix J), although we may notice a somewhat less frequent appearance of soft disciplines in the river area. This can be related to the higher percentage of Hungarian respondents. Experts indicate

high orientation to river landscape and they spend time by the river more frequently than students. The results for environmental orientations (χ^2=30,345; p=0,000; Appendix J) indicate the fact that the Anthropocentric-altruistic are more frequently by the river, whereas the Ecocentric and Anthropocentric egoistic are there somewhat more seldom.

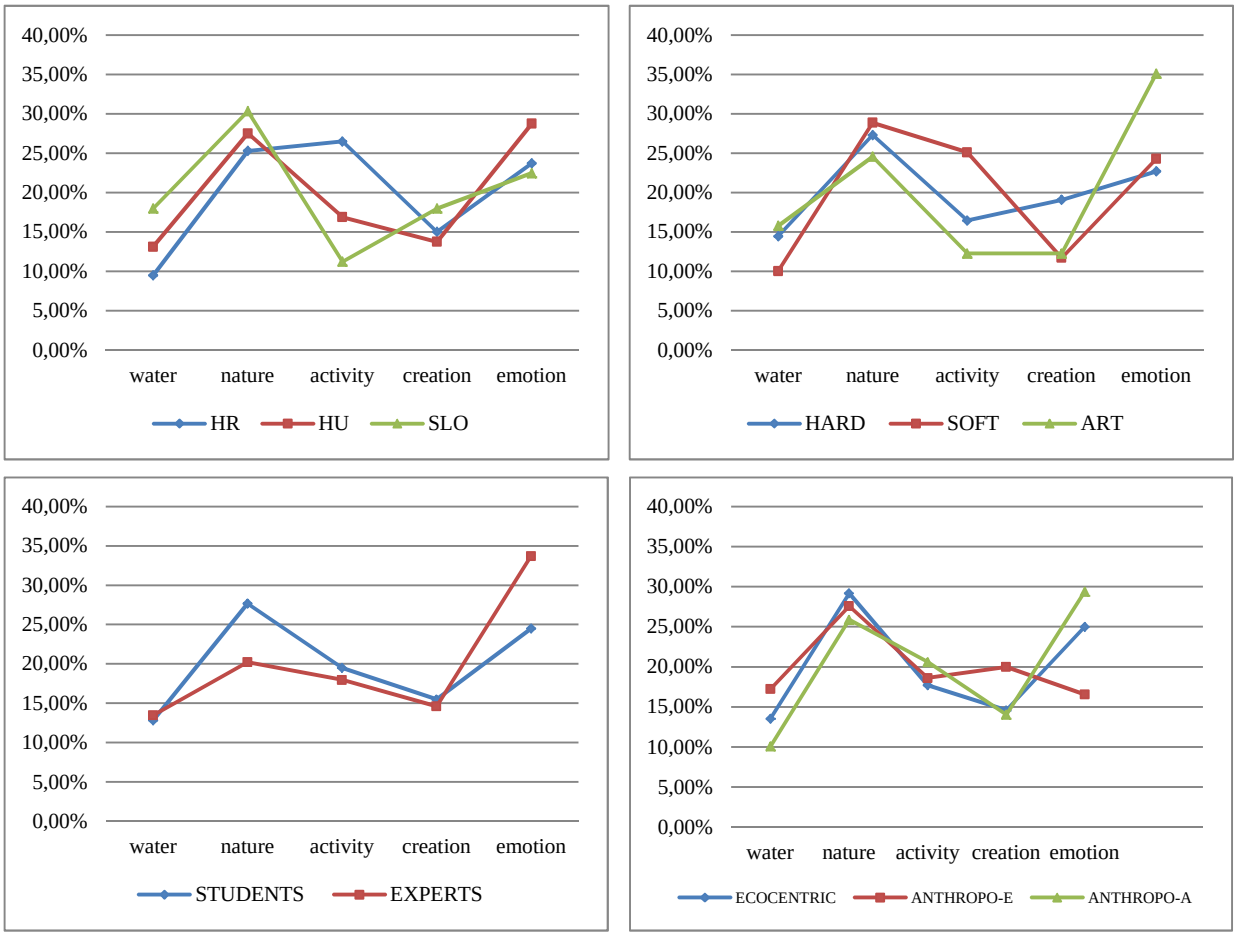
The manner of spending time in the river landscape is expressed with seven concepts. The frequency of responses is shown in Figure 58. Statistically significant differences are expressed for the highest number of concepts in the national frame, whereas for the student-expert frame and disciplines frame the differences overlap for the topics of education and visits to power stations. Different environmental orientations express statistical differences for walking and staying in the cottage.



Slika 58: Delež odgovorov interesnih skupin o vrsti dejavnosti med obiskom obrečne krajin enkrat mesečno in pogosteje
Figure 58: The response of stakeholders on the type of activity during visits to the river area, monthly and more often

The described behavior indicate to the fact that the queried group of Croatian students is the most frequently present and the most active one in the river landscape and that as such it shaped the attitudes which are to a higher degree tolerant to anthropocentric phenomena in river landscapes and more tolerant to human presence (anglers and swimmers) than Hungarians, who present different results for frequency and activity. Having compared the frequency of visits and the expressed a correlation with particular attitudes, it can be noticed that preference for the river landscape increases with the frequency of visits and that frequent walks, sunbathing, sports and stays in the cottage influence that preference in a positive way.

The respondents' answers to the question of what they remembered from their last visit to the river were checked in the first stage in order to establish the categories of concepts. The total most frequent category is nature, and the least frequent is water. There were statistically significant differences for different topics for different groups, as shown in Figure 59 and Appendix L. It follows that the difference in national divide appeared for the concepts of water and activity, disciplines' activity and emotions and for environmental orientation clusters and students vs. experts" emotions.



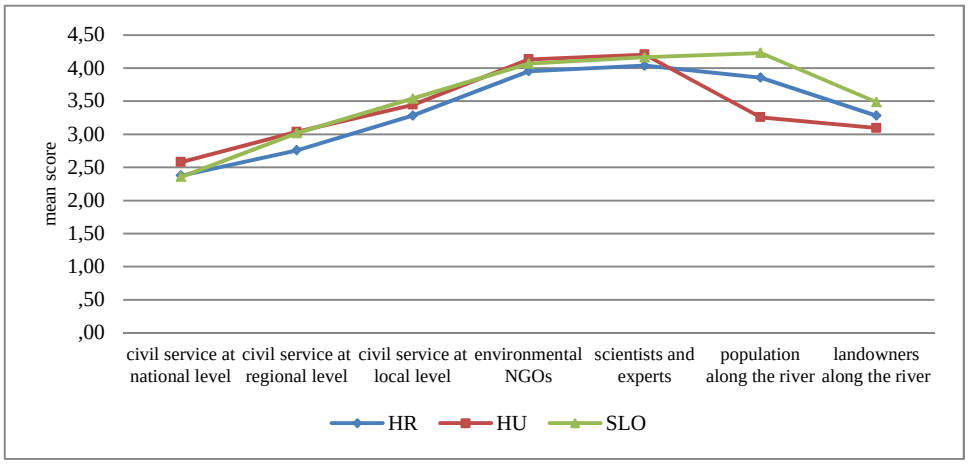
Slika 59: Delež odgovorov interesnih skupin o spominu na poslednji obisk krajini ob reki
Figure 59: The response rate of stakeholders for the memory of the visit to the river area

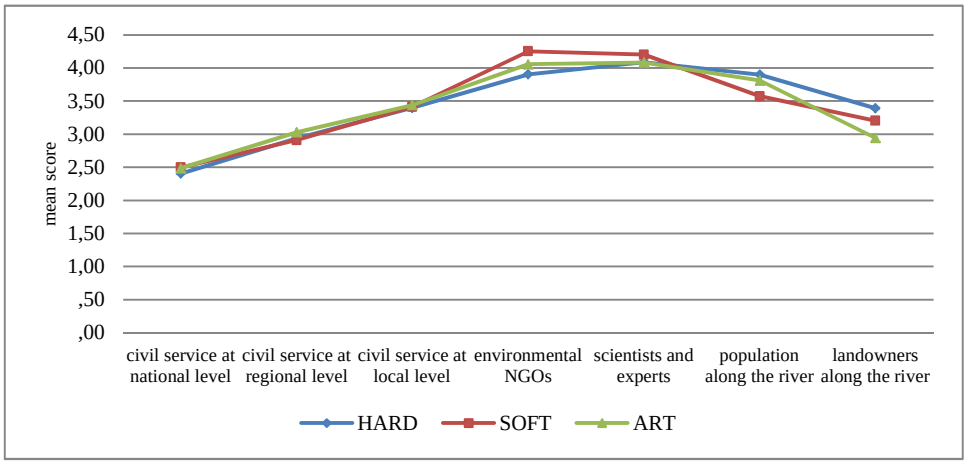
According to the national structures, each group has another “leading” topic memorized, although differences are not significant. Hungarian respondents mostly memorized emotion, Croatian activity and Slovene nature. That corresponds to the characters of the area along the rivers Drava, Danube, Ljubljanica and Kapos, which were mentioned as the last river the respondents visited in the majority of cases. The Drava in Osijek is a town river, from one side connected to the town area, on the other to the recreational area. The Ljubljanica is specifically a town river whose water body is accessible at very few spots. The Kapos is a river at the town periphery which does not connect to its existence either recreation nor designed nature, and the Danube as a river of the largest watercourse has a dominant water dimension.

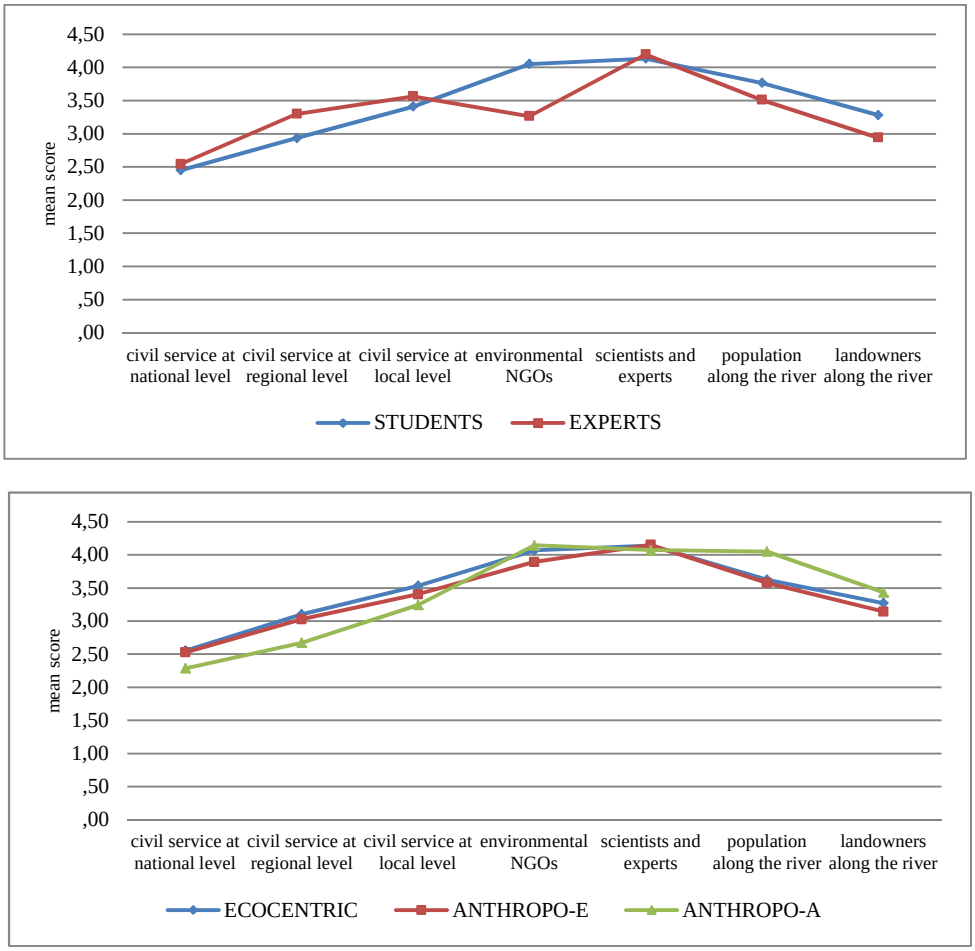
Unlike other frameworks and attitudes within this topic, there is the grouping according to disciplines. Among all groups it is the art discipline that focuses most on emotion, which is quite credible considering their worldview. Experts also stress emotion in the memory, whereas students enlist nature in the highest number of cases, which can be understood as a generation gap in comprehending the world and the hierarchy of perception. In previous research the results indicated different environmental attitudes and age as the most influential factor in predicting preferences. In the division according to the clusters of environmental orientations, the Ecocentrics and Anthropocentric-egoistic remember nature the most. The Ecocentrics remember water the least, similar to the Anthropocentric-altruistic, whereas the Anthropocentric-egoistic remember emotion the least.

4.7.7 Policy preferences on river management and authorities

We researched the confidence in different levels of institutions, from the national to the local, and the confidence in some new forms of organisations or groups which might take interest in managing the river area. Statistically significant differences are shown in Figure 60 and in the table in Appendix M. The level of trust toward the Regional level of institutions proved to be different among the groupings except for the disciplines. The level of trust toward the owners proved to be different depending on groupings, except for the environmental orientations grouping.

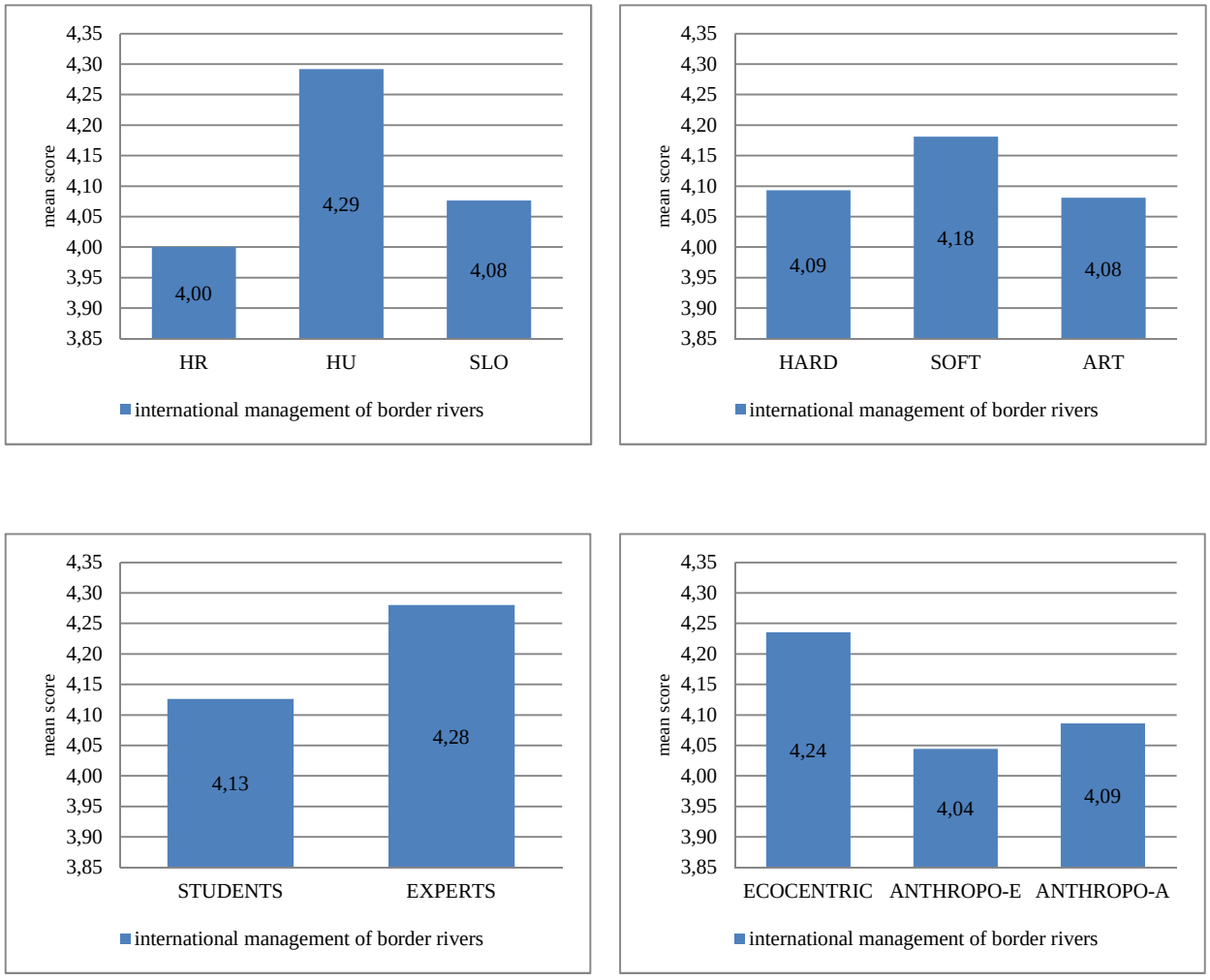






Slika 60: Primerjava povprečnih rezultatov interesnih skupin o organizaciji za načrtovanje in upravljanje z območje reke
Figure 60: Comparison of mean scores of stakeholders on authority on spatial planning and managing river landscape

The greatest difference in the nation group is in population (F=34,911; p=0,000; Appendix M), in the group disciplines for environmental NGOs (F=14,811; p=0,000; Appendix M) and somewhat higher for students vs. experts (F=30,686; p=0,000; Appendix J). Environmental orientation clusters have the greatest statistical difference for the population along the river (F=9,013; p=0,000; Appendix M). All cases rank civil services at the national level with lowest scores. Respondents grouped according to different interests rank stakeholders differently. The Hungarian and Croatian respondents thus find as most acceptable scientists and experts, whereas the Slovenian respondents gave the highest mean score to the population along the river. Awareness of the importance of the population's participation and exposure to information and the topic influenced the attitude of the Slovenian students. the Hungarian respondents rank population with the mean score which places them no higher than in fourth place. There is also a difference with disciplines where the soft disciplines ranked NGOs as best, whereas the hard disciplines and art ranked scientists and experts the highest.



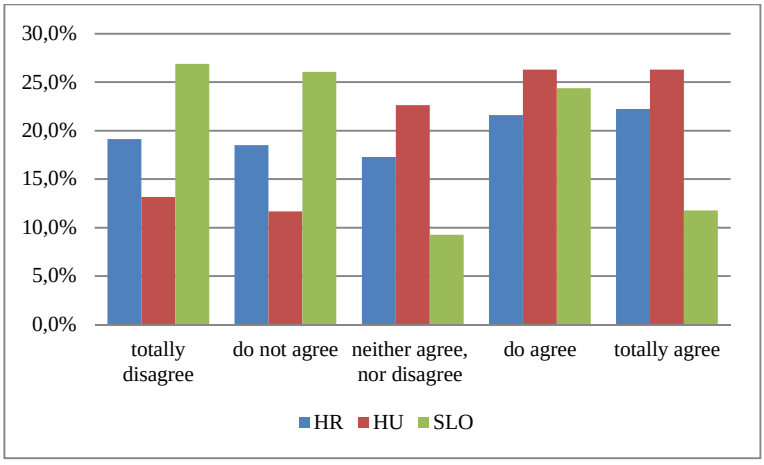
Slika 61: Primerjava povprečnih rezultatov interesnih skupin o organizaciji za načrtovanje in upravljanje z območjem reke
Figure 61: Comparison of mean scores of stakeholders on authority on spatial planning and managing river area

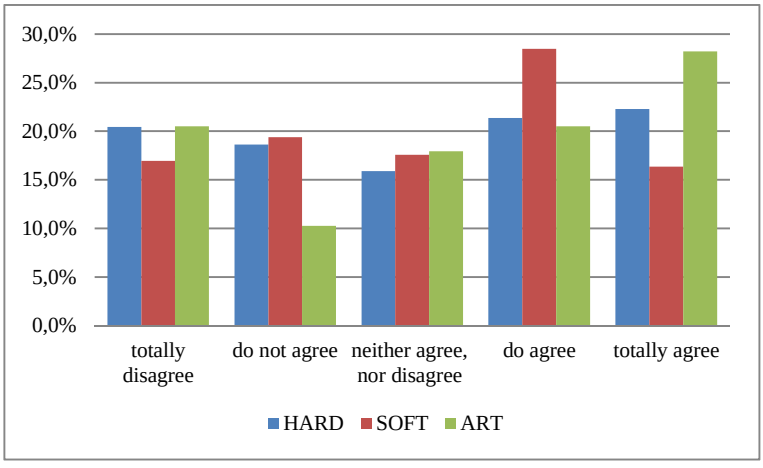
The attitude on managing cross-border rivers by international agreements correlates positively with the attitude that institutions at regional and local levels understand the problems of rivers at the level of the total sample. Similarly, there is a positive correlation with all suggested topics of international agreements (building hydropower plants, bioreserves, ecological problems, nature parks and residential areas) except for freeways and tourist zones. The attitude was confirmed with a positive correlation with the attitude on the importance of protecting natural bird habitats, flood protection and scientific knowledge about the area and, contradictorily, correlates positively with ranking a hydropower plant as an attractive element in the river area. None of the correlations was established for the framework Attachment to the river (frequency and contents of spending time by the river).

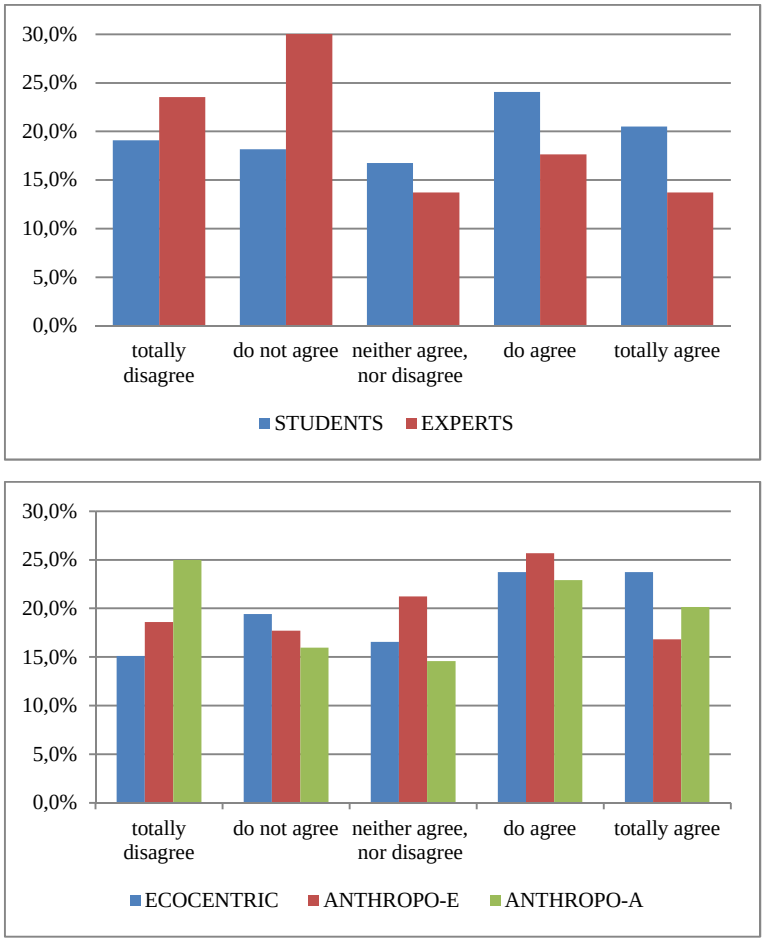
The attitude on managing cross-border rivers with common international bodies is homogenous and positive for all respondents. There is a statistically significant differences in the nation group

(F=4,042; p=0,018; Appendix N) where the Hungarian respondents ranked somewhat higher the attitude than the Croatian and Slovenian respondents.

The other item questioned the attitude on relation between the economic status of the county and responsibility. The result distribution is decidedly symmetric for the total sample and there was a question about which respondents support the attitude and which do not. A positive correlation was expressed with the attitude that international agreements should solve the issues of bioreserves and nature parks, but did not correlate with other potential agreement topics. The attitude correlates positively with the support of landowners as stakeholders in decision-making. There was a connection between angling and staying in a cottage in the way that the respondents who spend time by the river doing those activities more frequently tend to give stronger support to the support of the international agreements. There is also a positive correlation for the attitude that rivers should be sustainably developed, used for human needs and protected more than other natural landscapes. There is a positive correlation to all measures of flood protection except for the radical attitude that nothing should be done. The respondents advocating the attitude that wealthier countries should pay more attention to ecological problems than the less developed countries in the river area appreciate more the anthropocentric phenomena than the natural ones.





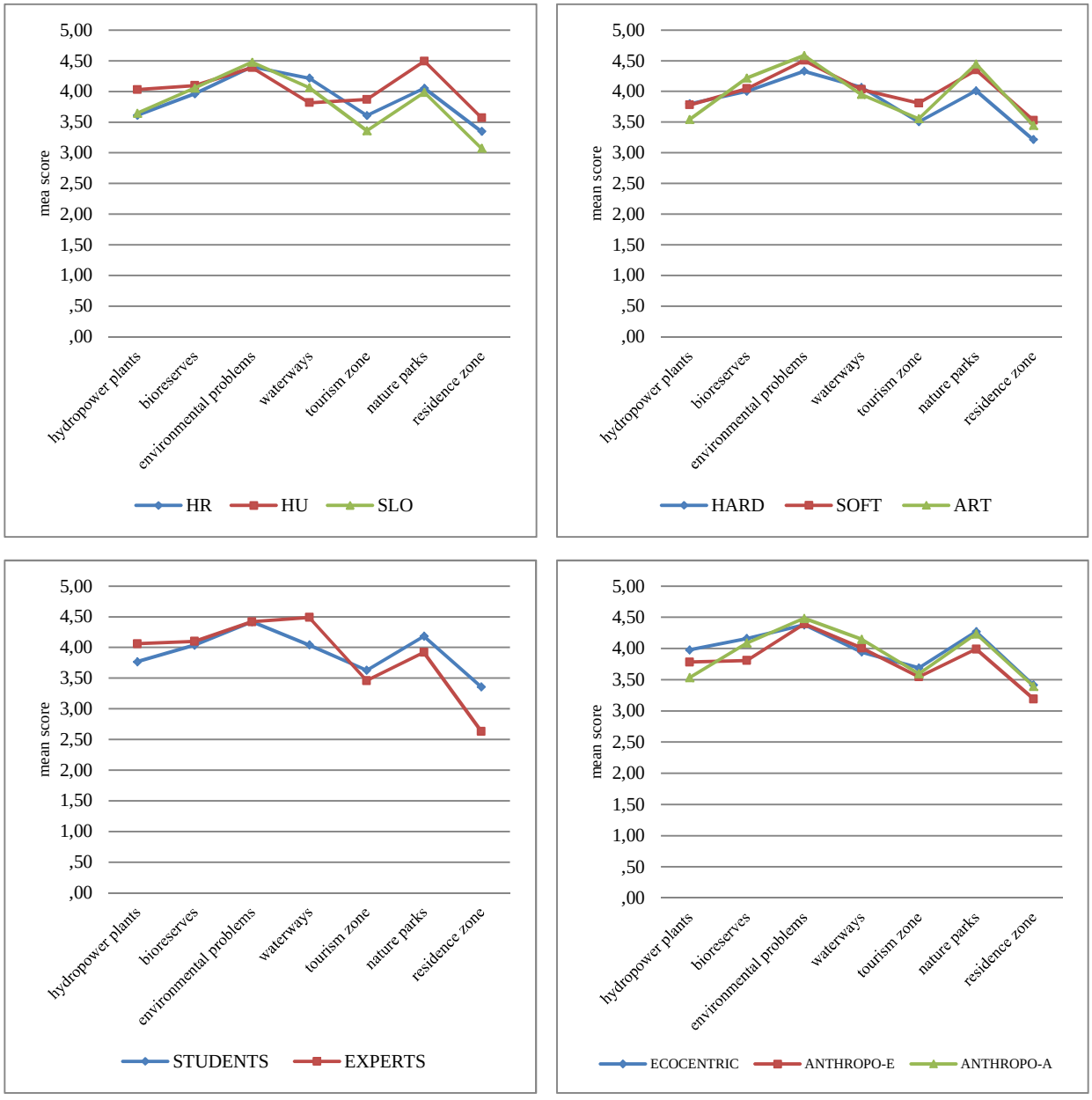


Slika 62: Delež odgovorov interesnih skupin o odgovornosti bogatejših držav za ekološkeprobleme
Figure 62: The response rate of stakeholder to responsibilities of wealthier countries to ecological problems

Among the respondent groups there is a statistically significant difference between the groups of Hungarian, Slovenian and Croatian respondents (F=4,042; p=0,018; Appendix N) and students and experts (F=4,006; p=0,04; Appendix N). The Hungarian respondents show the strongest support to this claim. The Slovenian respondents ranked that attitude with a lower mean score. The difference in Gross domestic product per capita may serve as an interpretation for this result since in 2010 it was 15800 mil. euros in Hungary, 20700 mil. euros in Slovenia and14800 mil. euros in Croatia (Eurostat, Statistics). Inglehart and Welzel, 2005 position on the World Values Survey 2005 Map – Hungary is closest to survival values, Croatia and Slovenia are approximately the same.

The next research topic was what respondents supported as topics of international agreements. The results are shown in Figure 63 and Appendix O. There are statistically significant differences in national clusters for all topics except for the topic of bioreserves and ecological problems. Result frequency indicates that the highest difference was expressed for nature parks (F=11,294; p=0,000; Appendix O). The differences for disciplines appear in four topics (freeways, tourist zones, nature parks and residential areas), the greatest being for the topic of residence (F=8,486; p=0,000; Appendix

O) as well as in the division into students and experts where the difference is greater (F=17,906; p=0,000; Appendix O). Only the groups divided according to their environmental orientations differ in the first two topics of hydropower plants (F=6,722; p=0,001; Appendix O) and bioreserves (F=5,630; p=0,004; Appendix O) while the difference for other topics is not statistically significant.



Slika 63: Primerjava povprečnih rezultatov interesnih skupin za teme, ki morajo biti urejene z mednarodnim sporazumom
Figure 63: Comparison of mean scores of stakeholders on the topics to be regulated by an international agreement

5. CONCLUSIONS AND REPHRASED RESEARCH QUESTIONS

Nature and human values

The introductory part of the dissertation elaborates the theme of the relationship between man and nature in terms of morality via concepts of anthropocentrism and ecocentrism including their different variants. The scope of this dissertation ranges from the half that is concerned with the man's ego and its opposite that covers a holistic and eco-radical side. The expanding awareness of morality and the belief in the intrinsic values of nature in the late 19th century were instigated by the ecological crisis that happened at the time. As a result, the concept of anthropocentrism moved in the direction of biocentric ethics with pioneering ideas of Aldo Leopold and his book *Land Ethics* (1948). The conflict of opposites stems from the role of the bearer of moral values - man himself. One half is formed with the view that equates man with morality and the activities which are in the service of realizing his welfare (Kirn, 2004), while the other half equates man with the overall treatment of the environment and negates him as a bearer of moral values (Naess, 1994), as defined by Kant back in the 18th century. Somewhere between these extremes is man's real position given today's state of nature. The shift caused by the ecological crisis today is marked with the increasing demand for energy. The conflict is obvious and, according to Jonas (1994), a solution must be found in the responsibility of man, since he is the main bearer of these needs and the primary decision maker. New ways and criteria of measurement and control of pollution were found, and the mechanisms of crisis prevention and punishment of non-conformist behaviour were set. When we talk about the environmental crisis today, we are talking about the consequences of excessive CO2 emission, the climate changes that are happening because of the decisions of the last and this generation, the waste of both non-renewable resources and renewable resources, about urbanization and consumption of soil, as well as food production and in particular the type of food we are producing.

The attitude of students in this survey indicates that there is sensitivity about the transformation of river landscapes among the young people surveyed. In the assessment of the Energy Production Scenario, the acceptability of introducing hydroelectric power plants was negative in all environments and for all stakeholders. Global values initiated by nuclear accidents (Chernobyl 1986, Fukushima 2011) and climate changes, promoting the usage of renewable sources, did not influence the attitudes of the young respondents.

At the global level, Inglehart and Welzel are the leading authorities in the field of value research, conducting the World Value Survey, which has been carried out every five years since 1990. Then, there is Schwartz with his widely applied and developed definition of ten motivational values and Hofstede with the construct of collective mental programming that describes the whole cultural values of a society or a group. The correlation of values (Inglehart and Welzel, 2005; Basabe and Ros, 2005),

of these three concepts indicates the existence of a consensus of values at the global level. It indicates that the values range in terms of individualism, autonomy and expression, and that the possibility of choice is actually a superordinate value on a global scale (Inglehart and Welzel, 2005). According to Schwartz and Bardi (2001) values such as benevolence, self-direction, and universality are consistently the most important. Power, tradition, and stimulation are the least important, and security, conformity, achievement and hedonism are placed between these two poles. According to Inglehart and Welzel (2005), the possibility of choice is the most important global value, and as a consequence, responsibility should have a global dimension as well.

Perception of rivers and the river area

The river area is perceived as a special phenomenon of the landscape so it is assumed that the value systems of the overall nature and river areas differ. Intrinsic values of nature change under human influence. The criterion of naturalness as a guiding influence in the evaluation of the scene has been assumed according to what was suggested in Kaplan and Kaplan (1984), Purcell and Lamb (1994), Buijs (2009) and Ode (2009). According to these findings, the selection of initial scenes was made. They had to be assessed according to the criterion of naturalness and ranged from entire natural scenes to scenes that showed a footbridge, which represents the biggest human impact on nature. Besides the features of the assessed scene, the image of nature (Buijs, 2006, 2009a) strongly influences the assessment. Buijs (2006) differentiates between the Arcadian image of nature, the image of Wilderness and the Functional image of nature. The question of what affects the evaluation of the river area is set as a central issue at the beginning of the present study. Although “perceived by people” refers to a holistic experience using all senses, very often it is reduced to the visual aspects. Considering the findings of Sheppard (2001) for the forests, and Buchecker and Junker (2008) for river environments, the relationship between the aesthetic and the ecological was questioned through visual stimulations formulated according to the methodology of Tress and Tress (2003), where every stimulated scenario presented a possible function in the river area. Figure 1 shows the relationship of the selected initial scenes and the new influences according to which the transformations were visualized.

The respondents are, on average, represented by the student population ranging from 20 to 25 years of age, of Hungarian, Slovenian and Croatian nationality and ethnicity. The sample is represented by the population declaring themselves in majority as Catholics. The insufficient sample of other religions made it impossible to research the relation of this dimension with other attitudes. The respondents are represented by the population who are not activists or stakeholders in the issue of environment. The respondents are equally represented by those living in large towns, small towns and from the countryside. A smaller portion comes from the suburbs. As has been hypothesized according to the

results from previous studies, the young population expressed their unique position that intrinsic values are more important than the extrinsic ones, so that the framework intrinsic-extrinsic lost in its importance.

Cross-cultural respondents

A general attitude of the respondents can be defined as ecocentric where the attitudes in the anthropocentric-altruistic orientation overlap with the ecocentric orientation. The respondents expressed their preference towards river landscapes in relationship toward the nature as a whole. At least a half of the students visit the river area on a daily basis or several times a week, and when visiting the river, they remember the following: first the natural elements, then their own emotions, followed by the activities they perceived or took part in and finally the water body. If the notion of water is joined with nature, the respondents mostly remember nature. In evaluating the elements important for the development of river areas, the respondents evaluated the topics of protection as more important for the development of the river area. As expected, the students were mostly inclined toward the sustainability paradigm with a deflection toward the protection discourse. This is corroborated by the ranking of visualizations where the scenario or renaturalization was ranked the best on the total. An "error" in the distribution of answers appears in the set of scenes with the mill on the Mura where the present state was evaluated as the best. Along with this, there was the emotion related to the national heritage by both Croatian and Slovenian respondents, which was interpreted as an impulse disturbing the expectations set by the first hypothesis. What follows from the results of the agreement on the topic of the subjects and forms of managing the river area and the river area on the border, is that the respondents express their distrust toward national authorities. This becomes inversely proportional with the fall of the level of authority, so that they trust more the local than the national level.

In this way, the support and legitimacy of the bottom-up planning was expressed. International agreements were also supported, but there is a conflict with the claim that wealthier states must care about ecological problems in higher proportion.

It was hypothesized that the respondents perceive the functions of restoration, outdoor activities and tourism, settlement and energy production as ecological presentations. Hypothesis 1 is formed on the assumption that the evaluation of initial scenes according to naturalness will be confirmed and that new human influence will be more acceptable in the environment whose naturalness has already been corrupted. The hypothesis assumed that the inverse relationship between the existing and the new impacts would be established so that hydroelectric power plants would be more acceptable in the already existing human environment, while less invasive impacts would be better evaluated in a more

natural river area. It was assumed that the variable of naturalness would be the most influential while evaluating the scenes, and that the vulnerability of natural areas would arise as the most influential factor. This hypothesis was tested by the instrument best / worst scene in which the respondents compared all the scenes (30) simultaneously. The grade means for scenario rankings for the six scene sets have also been compared.

The relative results show that the student population prefers the scenes which are the closest to their natural state, either in the original or in the modified scenes. The evaluation results of initial scenes confirmed the hypothesized dependence of naturalness and positive evaluation of the scene but the naturalness criterion in the selection of the best scene was “unbalanced” by the emotion associated with the element of cultural heritage at the scene - the mill on the Mura River.

The results of evaluation of visual transformations of the river area indicate that the accuracy in the evaluation occurs, however, it is not distinctively related to the naturalness variable of the initial scene. The results indicate the confirmation of Sheppard’s (2001) theory of “Visible Stewardship”, implemented by the author in the exploration of the visual domain of forest spaces. He claims that we prefer man-modified landscapes that clearly demonstrate respect for nature in a certain place and context. The hypothesis was disproved by the fact that the new influence was more acceptable in a completely natural environment and environment with dominant human impact than in a space where there was already a beach with a water slide, a mill or a ferry as indicators of minor human impact. It turned out that the biggest impacts visualized in the Scenario Energy Production were unrelated to the initial scene as we assumed. The least acceptable scenes of intensive interventions in the environment were found in the space with moderate human presence (beach, wooden ferry). Hydroelectric power plants are mostly located in the natural environment, initiating a conflict with the Natura 2000 (Steffen, 2011) which emphasizes the tensions within the scientific arena. Tensions arise between ecologists and economists within the professions themselves, etc. Local residents and their support are related to the amount of information provided, their involvement in the planning process and the amount of business interests. The decisions on infrastructure projects typically come from national or regional levels induced by macro-economic gain or by current needs related to energy demands and climate changes, while the effects are local and mostly affect people and groups directly related to the infrastructure project location. A conflict occurs at the level of value and trust between the sides involved.

Considering the fact that the sample represents only the young population, the age variable could not be confirmed as a relevant factor. The research of human landscape interaction has dealt with perception and preference and has studied the links with different input data. Zube et al. (1982) set the whole research paradigm on the differences in experts and non-experts’ attitudes which were both

justified and corroborated in this research. Kaplan and Herbert (1987) studied the differences in perception and preference between American and Australian students. In both cases the differences were visible with greater differences in the realm of perception. Later on Kaplan and Kaplan (1989) established the difference between preferences to natural or artificial landscapes among social groups.

Structurally and geographically selected subjects were studied as a composite of groups which are gathered around different interests, and observed in terms of their value systems in relation to the visual transformation of the river area, to the value systems of nature and to the rivers. Since this study was conducted on a convenience sample, a generalization at the level of the national sample is not possible, but national groups were observed as different cultural groups according to Hofstede(1983), Schwartz(1989), Inglehart and Welzel(2005). Hypothesis 2 assumed that in the observed regional range there will transpire interest groups of different nationalities having similar inclinations toward changes along watercourses. The study sought the links between different variables observed through the frame of the instrument or interest groups. The frames are designed according to the theoretical review of the relationship between the human-landscape interactions, by Zube et. al. (1982), defined by paradigms for the study of human-landscape interaction (the expert, psychophysical, cognitive and experiential paradigm). The differences in the results follow an expert paradigm, according to the displayed differences between the total sample of experts and students. The experts have partly expressed a different system of evaluation.

We can assume that the experts evaluated the scenes with the notion of “capacity” to human impact of the observed area and assessed the new impacts as more acceptable in areas with a moderate human influence, while minor influence was assessed as more acceptable with scenes in which the environment had already been humanized (concrete shores, ferry, bridge). The difference between the students and experts is confirmed even during the evaluation of sets by ranking scenarios. The results of student responses indicate homogeneous attitudes, and they evaluated the Restoration Scenario as the best and ranked it at the first place. Experts, whose education and experience are richer than the students’, evaluate the scenarios heterogeneously, so that the following equally appear as first rated: the Origin Vista, the Restoration Scenario and the Outdoor Recreation and Tourism Scenario. Experts, as opposed to the students, value the current state more than the modified one. In this case, based on the qualitative analysis of graphic intervention on the part of the visual questionnaire, it can be assumed that the experts evaluated the realized transformations as too unrealistic and wrong, and not as the visual and ecological effects for the observed initial location. This result and interpretation are taken into account in formulating proposals for further research.

This confirmed the findings on the impact of education on the value advocated by Hofstede (1983) in the value area and by Gobster et. al. (2007) at the level of human-environmental interactions. Since the

experts are a group more diverse in their age than the students (older than 35), this component also influenced the value system in the manner that the moderate developmental transformations are to a larger extent more acceptable for this group than for the students' group. Such a result confirms a number of research results on the positions about the landscape through the age variable, close to the results of Buijs (2009) on the example of river restorations. In the value area, Inglehart and Welzel (2005) interpreted this difference in two ways – as changing attitudes in the individual's life cycle and as changing the value of a whole generation.

The assumption that the same interest groups of different national backgrounds will show a similar tendency to changes along water courses has been shown equally in the exact frame of policy preference toward planning and management authorities. For all other frames, the differences in attitudes can be assumed as a result of the impact of experience of subjects related to riverine areas, which has not been sufficiently investigated. We set two additional frames within which it was assumed that contact groups having opposing views will arise: disciplines (major subject of interest) and socio-environmental orientations. Both concepts of grouping showed minor difference in the evaluation of visual changes in a river landscape. The division into groups according to their disciplines have shown that such a concept of dividing subjects is not relevant.

Between the three supposed categories - the hard, the soft and the art discipline, the art discipline is highlighted in a number of radical attitudes that can be associated with the assumed character of the discipline according to Biglan (1973), which assumes different lifestyle orientations. The art discipline stands out in the pro-environment attitudes, as well as in the attitude that richer countries are responsible for the environmental problems. Although on the overall negative, the result for the question of desirable measures for flood protection indicates the largest proportion of respondents in this group having a very radical view that in the case of a flood you "should not do anything." The art discipline members stand out due to the fact that they memorize the emotion and do not consider the river scenery more beautiful than other natural landscapes but are at the same time aware of the fact that it needs more protection. The results indicate that art disciplines are the most aware of the intrinsic value of the natural environment, but also more prone to affective evaluation. The Soft disciplines are emphasized within the framework of Policy Preferences, and respondents believe that non-governmental environmental organizations understand the problems of rivers the best. Soft discipline therefore shows the lowest support to the scientific and institutional sphere, confirming the assumption of the soft-applied disciplines on the enhancement of semi-professional knowledge and know-how via soft knowledge (Becher, 1994).

Another assumed grouping expected to be identified as distinctive, is the socio-environmental orientation, defined by the relationship to nature and river, and moral coverage. Socio-environmental

orientations were designed following the Schultz and Zelezny (1999) as ecocentric, anthropocentric-egoistic and anthropocentric-altruistic. Differences have emerged between clusters in the evaluation of visual transformation, value-related attitudes to nature in general, and attitudes and values relating to river areas. The distribution of the respondents into environmental orientation clusters according to their nationalities and the frequency of their visits to the river area indicate that there is a possibility that the variety in their experience influenced the results and that we can talk of anthropocentric-altruistic respondents with most frequent experience in the river area.

The results indicate that the ecocentric attitudes toward nature have not been transformed into ecocentric attitudes towards visual transformation of the river area. The overlap of ecocentric and anthropocentric-altruistic orientation attitudes confirms previous results of Shultz and Zelezny (1999) as being latent structures whose orientation changes direction. The overlap is more intense if we explore attitudes related to river space than to nature in general. The anthropocentric-altruistic cluster showed the strongest correlation with the Restoration Scenario. The "error" in the distribution of these findings is again to be noticed in the impact of emotions on the scene evaluation. Besides that, the result showing that the Altruists evaluated as the best the scene with the mill can be interpreted according to the expressed emotion in comments, since 93% of the cluster is formed by the Slovenian and Croatian respondents. Significant differences in the category of attachment to the river and the variable frequency of river visits was observed for this cluster. The results highlight the fact that the anthropocentric-altruistic, as frequent visitors of the active river area "saw more" (Ryan, 1998) and rated the river area accordingly. Anthropocentric-altruistic orientations stand out in other frames as well.

In addition to the observed, pre-set frameworks, the results initiate a new category, defined according to the criterion attachment-frequency of visiting a river landscape following the experiential paradigm, according to Zube et.al. (1982). These assumptions refer to the findings by Kaur et al (2009) who interprets the landscape preferences through the two-dimensional model of two variables: familiarity and peculiarity. Compliant findings in the familiarity variable show that the Slovenian and Croatian respondents evaluated as better the more moderate scenarios of human impacts to which they themselves were exposed. The specificity of a scene cannot be defined in a sequence which is offered in the instrument, except for the mill on the Mura River, but that specificity was recognized as such only by a small portion of respondents. Those results point at the importance of an experiential frame for which it was assumed on the basis of the results that it would indicate the differences in the observed, specific sample of a regional scope and at the importance of different local conditions, depending on the attitude to the river area. New research questions go in the direction of establishing an experiential frame. Except for the data on how much time is spent by the river, possible experiential variables are: heterogeneous experiences (different rivers in view of their watercourses, different

location in reference to their function, different bank arrangement, accessibility, relationship between the settlement and the river) motivation for spending time by the river, a social context of spending time by the river and others. Besides, according to the literature which indicates the influence of childhood experience of nature on future behaviour, it is necessary to put experience in the context of a life-cycle and to study the experience related to nature and the river landscape in childhood, to present and planned experiences.

National boundaries do not necessarily correspond to the boundaries of organically developed societies with a shared culture. But there are strong forces towards integration that can produce substantial sharing of culture in nations that have existed for some time. There is a single dominant language, an educational and political system, shared mass media, markets, services and national symbols. The research confirmed that there is cultural and national differentiation in the respondents' attitudes, due to them being students from the universities in Ljubljana, Kaposvar and Osijek, who evaluated the transformation of the river area of the Mura and the Drava in the trans-border area of Slovenia, Croatia and Hungary. Since the research was conducted on a convenience sample, it is not possible to generalize to the level of a national sample, but national groups were observed as different cultural groups, according to Schwartz (1999), Inglehart and Welzel (2005) and Hofstede (1990). Regarding the expressed differences in higher order values between the Hungarian sample on the one hand, and the Slovenian sample on the other, it was to be expected that these differences would be transferred to differences in evaluating the environment. This research presupposes the differences between cultural /national groups and on this basis studies the differences in environmental orientations and river preferences in the cognitive and expressive domain, as suggested in Keulartz et al. (2004, cited in Buijs, 2006). The concept of nature is equally strong in all cultures, but the results introduced in this dissertation cannot be interpreted as pertaining to other cultures and nations, nor to other river areas. Those were the positions upon which Hypothesis 3 was formed.

The situation on the Drava and the Mura River multiple borderlands is a complex upstream-downstream Austrian-Slovenian-Croatian historical puzzle, including the conflict of the two common banks (Slovene-Hungarian and Hungarian-Croatian). The Austrian experience of the consequences of building hydroelectric power plants on the Drava and the Mura resulted in a series of revitalization projects. At the same time they provide the building of a new one, namely the "Gossendorf" hydroelectric power plant on the Mura. The Hungarians proclaimed their pro-environmental position in 1996, when they founded the Danube-Drava National Park, and five years later prevented the Croatian energy experts from constructing the Novo Virje hydroelectric power plant on the Drava. Within the Croatian territory itself there are high tensions between non-governmental ecological organizations linked to the area of the Drava and Mura rivers and the state level that both suggested and withdrew the project. The regional level represented the environmental interests and protested

against the Slovenian plan on eight hydropower plants on the Mura, appealing against it to the Hungarian county of Zala. The situation is obviously very complex, and the interests transgress the management hierarchy, while national interests are defended across borders as well. In addition to restoration projects, development initiatives arose in the area of recreation and tourism, where a system of cycle routes along river corridors has been initiated. In Austria, the bicycle route "Drauradweg" serves as a link to a series of multipurpose hydropower plants and continues in Slovenia along their plants on the Drava River. Croatia has also initiated a bike trail project along the Drava River. Positive ideas on all sides serve as cross-border links. At the local level, it is easy to see some other signs of cross-border characteristics: language barriers, the lack of acquaintance with cross-border neighbours and the lack of interest in cooperation. Institutionalized cross-border cooperation on the real content is therefore crucial.

The assumption that the different ethnic groups will show different levels of sensitivity to the bank arrangement in accordance with nature, was based on the theoretical framework of cultural groups according to Schwartz (1998), Inglehart (1995) and Hofstede (1983) as well as on recent results of cross-cultural research by Inglehart and Welzel (2010) and Hofstede (2010). It is assumed that the three selected cultural groups will form two clusters with two poles - a cluster closer to the Hungarian "survival", materialistic values on the hand, and the Slovenian respondents who are the closest to the "self-oriented", post-materialistic values on the other.The Croatian respondents are assumed to be the values "in between." It was assumed that the differences of expressive values will be shown as differences in the attitudes of the Socio-environmental orientations and Policy preferences frames.

The results showed the following:

- at the level of the general attitude towards nature, the Hungarian as the respondents spending the least time in the river area demonstrated ecocentric orientation to the fullest extent;
- the Slovenian respondents showed lowest confidence in governance institutions at all levels while Hungarian and Croatian students expressed a greater confidence in the elite and associated the responsibility for environmental issues with the economic status of the state ("rich should pay more")

By comparing the results of cultural/national groups, a difference was demonstrated concerning the criteria of two groups: the Hungarian, which did not recognize it as the emotion and the Croatian and Slovenian group which confirmed the recognition of cultural heritage through their comments. Insensitivity to the appearance of the mill as a symbol among Hungarian respondents was confirmed by the high ranking of restoration of the same initial scene in which the mill was removed. A group of experts assessed the modified scenes in relation to the initial one in the most diversified manner, which confirmed that the elements of knowledge and familiarity with the area affect the judgment. The biggest differences compared to the total sample results were shown by Hungarian students and

experts. By comparing other variables it was established that the respondents from the Hungarian university in Kaposvar visited the river area less frequently. Also, they do not perceive the mill on the Mura as a national symbol and as such it does not affect the distribution of results. The Hungarian respondents showed a different value system by the result in which a hydropower plant in full nature was judged as the most acceptable, which is consistent with the practice (Steffen, 2011). The results confirmed Inglehart's hierarchy of material security and expressive values through the environmental orientation framework in the case of Environmental orientation for river landscapes and Policy preference. The result in which the Hungarian respondents showed the strongest ecocentric orientation is in a conflict with the development of post-materialistic values, but is also consistent with the fact that the cultural attitudes are influenced by political decisions. Since Hungary has been leading a contra hydropower policy since 1990, the assumption is that it has made an impact on the shaping of cultural values.

In favour of confirming the hypothesis of a different sensitivity towards the river area of different ethnic/cultural groups, the indicated results show the influence of the materialist/post-materialist values just for the confidence in the elite and on the relationship between responsibility and the economic status.

General conclusions of the research

In accordance with the introductory overview of knowledge in the area of the man-nature relationship, between aesthetics and ecology and cross-cultural values, an instrument was created which sought to find the answers to the question how are nature, river landscape and the changes in river areas evaluated. The answer was sought, too, to the question of which are the interests or social and geographical influences around which the respondents cluster. The hypotheses presumed that evaluation would be primarily influenced by the naturalness variable, and attitude clustering by cultural accumulation, whereas interest was sought within the frame of environmental orientations (according to Schultz and Zelezny, 1999), various disciplines (major subject of interest, Biglan, 1973) and expert and experiential paradigm (according Zube et. al, 1982). The instrument was structured in a manner in which the cognitive and expressive domain would serve to research attitudes.

The empirical results show that young participants of the total sample prefer river areas more than other natural landscapes and show a pro-environmental position toward the transformation of river landscapes. River landscapes were better evaluated for their greater naturalness both in original as well as in the transformed scenes. The transformation of river landscapes explored by visual stimuli shows that respondents tend to rate landscapes with moderate human influence as "more vulnerable" than those of complete nature scenes. The emergence of a hydro power plant is the least acceptable in the

context of other possible scenarios of restoration, of the functions of recreation, tourism and housing for all the groups studied. In evaluating scenarios, a global value consensus on the necessity of orientation toward renewable energy sources was not applied during the evaluation of the scenes. This confirmed the conflict of growing needs for energy and concerns when choosing allocation for the power station. The connection between the public, scientific and professional spheres of a society could be found within the realm of education and the ways forms individual and social values. Education on multifunctional orientation of future ecolabeled hydro plants, designed to promote recreational activities, sports, leisure as well as agricultural irrigation systems, would influence the perception of hydro plants in the river area. An initial negative response to hydro plants is built on its perception as environmental polluters rather than as renewable energy sources. The shift from a global towards a local consensus should be planned before crises arise.

The respondents expressed the most homogenous attitudes for the claim that in river areas on the border there should be an international managing body, that sustainability is the real paradigm for managing river landscapes and that flood protection should be organized there. A positive attitude on sustainability was even more intensely expressed by the group of experts. The fact that flood protection is necessary for the development of the river area was not disputed by either of the respondent groups. There were, however, differences in positions on how the protection should be organized.

The greatest differences were observed among respondents with different experience in river areas. Further differences were expressed in comparing the respondents according to the groups of students and experts, where the difference was interpreted as a consequence of different attitudes, generations and knowledge the groups possess.

The results point at some conclusions regarding the instrument itself. Environmental orientations have had an impact on the evaluation of visual transformations. Following the trends in recent studies on the visual component of environment, it is necessary to establish a link with the ecological domain in order to create a network and clarity of attitudes. The difference between attitudes expressed within the cognitive and expressive part of the survey point to the fact that clearer attitudes are present in the expressive part. That effect is visible when comparing evaluations of the mill and people in space in both parts of the survey. The mill was not distinguished as especially desirable (placed sixth of ten offered elements) in the written part while it had a significant say on the value system in the visual part. The scene with people (bathers, anglers) accentuates the differences even more intensely; in the written part they are poorly evaluated while they are highly evaluated in the visual part. A positive evaluation of hydro plants compared to weekend settlements in the written part can be attributed to its inconsistent visual image; that fact was used to form suggestions for further research. Therefore, we

assume that by defining clearer attitudes one can reach true common values and interests that can act as bridges in perceived conflicts. As a conclusion, visual instruments should collect as much information as possible in order to present the views of the respondents. Variables of visualisations should be linked with the ideas promoting particular environmental orientation. Also, the respondents' existing vision of nature has been proven as indicative and should be researched in order to gain a holistic view of the values' system.

What follows is that in planning river landscapes it is necessary to include all levels, scapes and values introduced by the planned change. A very frequent cross-border situation additionally complicates the relationships and fogs the interests. Added to this, the downstream-upstream and trans-bank conflict may be spotted in cultural/national differences. The conflict can occur at the level of value and trust between the sides involved. Finding the framework within which the conflicts are most obvious is a beginning to a more effective bridging of the negative effects of such situations and there is an aspiration to find harmonious values instead of negotiating personal interests (Keulartz et. al. 2004, cited in Buijs, 2009b). Positive ideas on all sides serve as cross-border links to which real content is therefore crucial.

Contribution to the study of science and spatial planner profession is given in the following points:
Contributions to new knowledge about the transformation of the river area are acceptable in relation to human impact on the initial state. When evaluating the transformation of the river area, the initial state of nature is not perceived as vulnerability if emotion is included.

It is clarified that infrastructure changes variables and users on the scene are dominant variables in the evaluation of new designed landscapes in the application of the visual instrument in the study. Eligibility of new functions is in relation to the respondent's relationship with and experience of the similar area and its age.

Greater cohesion and experience lead to the fact that this transformation is estimated in the projection of effects on humans, while less experience has an impact on the transcendence of value of the broader concept of value of nature onto the narrower phenomenon – a river.

An emotion related to the national cultural symbol is an impulse that affects the evaluation of the transformation of the river area. The national symbol in the observed area is percieved an element contributing to the preferance of this area in all transformations.

Cultural differences are shown on a convenience sample in the domain of trust in elites when deciding on planning and management of river area, so that the sample that came from a culture with certified post-materialistic values at the national level, expressed distrust of the elite.

When planning a regional scope, we should take into account value systems associated with a narrower scope of the planned transformation. Planning of new functions should be aligned with existing human impact on the planned location, and eligibility elements that direct the transformation will evoke emotion. Only landscapes that are culturally accepted can be sustainable. (Nassauer, 1995).

To minimize the potential for conflict in the planning watershed area between different cultures/nations, we should take into account the level of trust in the elites and plan these actors accordingly. Reducing conflicts should be planned by increasing the experience of the interest groups in accordance with the intended function. Reducing conflicts should be planned by increasing the experience of the interest groups in accordance with the intended function.

Suggestions for further research

The differences among the cultural groups in the ranking of the Energy Production Scenario confirm conflicts from the real space. It would be of interest to detect elements affecting the acceptability of such landscapes.

After having investigated a sample that showed infrequent visits to a hydroelectric plant, for the sake of comparison, the acceptability and evaluation of this area should be conducted by investigating the atitudes of respondents who have visited a hydroplant more frequently. In addition, it can be suggested that the research objectives should be focused on increasing the validity of a visual instrument in evaluating and testing the impact of experience on the eligibility of hydroelectric power plants in the river area.

The research indicated the importance of experience in evaluating different functional changes in the river landscape. According to those results, there is a suggestion for expanding the experiential frame through the dimension of a life cycle (childhood, present, planned) and through the content dimension of experience (what kind, how much, context, motivation).

A convenience sample, whose limitations are the young population and experience, nevertheless inconsistent experience of the river landscape, indicates that there is a necessity to construe a sample according to some other key. A regional scope of respondents according to which the observed rivers are not “far” and whose experience is related to a river introduces a question of international,

interregional differences in the population. A possible question thus may be whether natural boundaries within which we grow up and gather our experience form our environmental attitudes to a larger extent than the global environmental attitudes or cultural national accumulations such as land use, spatial policies etc.

6. SUMMARY

This doctoral dissertation, entitled Primerjava vrednostnih ocen slovenskega, madžarskega in hrvaškega prebivalstva o trajnosti na osnovi vidne transformacije obrečnih krajin (Comparison of value attitudes of Slovenian, Hungarian and Croatian citizens on sustainability using visual transformation of the river landscape) begins with the introductory part which gives a broader theoretical framework of the subject and provides an insight into the structure and methodology of the dissertation.

The complexity of landscape analysis stems from the subjective vs. objective concept dichotomy on the one hand as well as the modern tendencies towards holistic, transdisciplinary and multidisciplinary approach to research on the other. Through review papers and empirical research the dissertation shows how the relationship between man and nature evolved. The relationship between man and nature is seen through multifold standpoints: the ethical principle, and moral as well as ethical coverage of the subject. Previous works were examined and studied so as to give various definitions of terms from anthropocentrism to ecocentrism, egoism and altruism to holism. The concepts of values and culture were also defined. The connection between the framework values and the attitude towards nature through multidimensional value framework by Schwartz (1984) and environmental orientation as defined by Schultz and Zelezny (1999) was established.

A review of research on international cross-cultural values done by the authors Inglehart (1995), Inglehart and Welzel (2003), Hofstede (1983) and Schwartz (1998) established that a national framework is analogous to the cultural framework. Starting from this premise and considering the results of the last empirically observed differences between the three nations in the World Value Survey research (2010) and those done by Hofstede (2010), it was assumed that differences in the attitudes would appear.

Modern constraints on river landscapes are many and varied and so the riverine landscape becomes a multifunctional landscape in which nature and nature (droughts and floods), humans and nature (droughts, floods, resource exploitation, construction, regulation, etc.) and finally man and man (different interests, local, regional and national level, cross-border conflicts, etc.) are confronted. Taking all this into consideration, the river area functions as a place of living, recreation, tourism, protection, exploitation of resources, and energy production. Modern intention lies in integrated planning and management of river phenomena, where the spatial unit is no longer just within the scope of one nation, but covers a larger river basin area. There are many ways in which the river landscape can change due to the various influences transmitted upstream, downstream, and across the banks. Moreover, the example of multiple borderlands between the Drava and Mura show that due to a

different value framework, authority and legitimacy of borders between different nations, transboundary impacts play an important role and only emphasize the need to explore the topic from different standpoints.

Authors who have dealt with the relationship of man and the nature evaluated the visual field as a preferable platform of both subjectivist and objectivist paradigm where values of both sides can meet. The theoretical framework in the dissertation gives an overview of graphical expressions that have man on one side and nature on the other (Zube et al, 1982; Zube, 1987; Tress and Tress, 2001; Gobster et al., 2007, Fry et al. 2009). It was established that the visual part makes the river landscape so special, that it is very scenic and that the presence of water raises the preference bar.

The research of the landscape is based on field surveys or visual materials. Palmer and Hoffman (2005) critique the consistency of these studies and give a recommendation to establish the reliability of professional ratings; to establish the validity of each landscape representation and to establish record of preparing valid Visual Simulation (Palmer and Hoffman, 2005). A significant contribution was done by Van den Berg and Veenklaas, 1995, Emmeline 1996; Palang 2000, Sheppard 2001, Palmer and Hoffman, 2001; Nassauer and Corry, 2004; Westhoek et al., 2006; Stenseke 2009 in the field of simulation, conceptualizing of scenarios and their use in research.

Research questions are primarily concerned with comparisons of the landscape and the value framework of subjects of different cultural backgrounds. The differences were expected in the evaluation of different landscapes according to the level of naturalness; different attitudes between cultures / nations towards the change of the river landscape. Eventually, it was assumed that the results would point to the interest groups as bearers of specific attitudes toward the river landscape.
From these research questions emerged the concept of sample selection and the tool structure. Subjects represent a sample that was divided according to the following concepts: culture / nation (Hungarian, Slovenian, Croatian), according to disciplines (hard, soft, art), environmental orientation according to the results on the instrument scale, and as a group of students and experts. A group of students is a consistent group ranging from 18 to 35 years of age. The last division, on students and experts, suggested and investigated differences in relation to the age (years).

The tool includes a visual and written part. For the visual part structural modifications of the river area were presented and evaluated. Six initial scenes were selected according to the criterion of intensity of human impact on the scene. The selected scenes were portrayed as follows: the completely natural scene on the river Drava in Podturen; the scene with a small wooden raft on the river Drava in Podturen; the mill on the Mura river near St. Martin on Mura; the beach at the Mura-Drava estuary; the motor ferry on the Drava near Križnice; and the pedestrian bridge over the Drava in Križnica. All

sites are points of contact between the Croatian and Hungarian territory. Structural simulations have been changed according to four variables: vegetation, level of contact between water and land, users, and infrastructure. The modification presented four functions: restoration, recreation and tourism, housing and energy production. The written part examined the attitudes through following concepts: environmental orientation, attitudes toward space and flood defence, cohesion of space and river, and views on the planning and management of river area (authorities and international entities).

Empirical research points to the conclusion that there are differences between the three cultural / national groups whose views differ for all of the observed concepts. The clearest result in the sample groups came out in evaluation of the national scene with the Croatian and Slovenian cultural heritage in the scene. The difference between cultures / nations is shown in the environmental orientation, what we can interpret by different contexts that surround the subjects. Although all three locations where attitudes were explored (Ljubljana - Slovenia, Kaposvar - Hungary, Osijek - Croatia) have a river, a relationship with the river is of different character (a city on the river and the river in the city).
Subjects evaluated all scenes according to the emotion that was provoked by the scene of a mill on the Mura River and which was assessed as the most natural one. All the other scenes were evaluated as ranging from complete naturalness to the ones where there was most human influence; i.e. scene with a pedestrian bridge in Križnica. Results show that participants judged a moderate human impact on the landscape as a quality that is desirable. The hydroelectric power plant is evaluated as undesirable by all groups, but when given the option to compare different scenes with the hydroelectric power plant, more acceptable is the one with the power plant in a completely natural environment than with a wooden ferry, mill or a beach slide. Different evaluation systems were applied for natural scenes, for those with moderate human influence, and for the scene with a pedestrian bridge that represented the greatest human impact. The cultural / national difference emerged with attitudes about various entities of planning and management of the river area and where the soft discipline stood out (humanistic orientation). Cultural / national differences are underlined in the evaluation of statements, like the one which says that richer countries should take more care of environmental problems. The Hungarian and Croatian students positively evaluated this statement, while the Slovenian students had an opposite standpoint. The beauty of the landscape factor and the radical environmental views were most prominent in the evaluation of those students who belong to art academies, which can be connected to the fact that different disciplines evaluate variables differently. Experts have expressed a greater preference for initial scenes than younger subjects and they advocate a sustainable paradigm for river areas which can be seen in the positive responses.

This dissertation is the first empirical work which compares the attitudes of the Hungarian, Slovenian and Croatian subjects on the river area transformation on the example of the rivers Drava and Mura. The dissertation comes to the conclusion that in the visual evaluation of river area transformation the

initial state of nature is not perceived as possible vulnerability. The greater the experience and relationship between man and nature, the more oriented is the evaluation of transformation towards its consequences on man-humans. The results suggest that emotion is closely connected to the national symbol, which represents an impulse that affects the change in the value assessment of river area transformation.

The sample shows that cultural difference is revealed in the domain of how much the subjects trust in the elite when deciding on planning and management of the river area. Those subjects in the sample that come from a culture with certified post-materialistic values at the national level expressed distrust in the elite. When planning the new features in the river area of the rivers Drava and Mura, value systems with a narrower scope of the planned transformation should be investigated. The planning of new features should be synchronized with the already existing human impact on the planned location, and the acceptability of the transformation should be directed towards those elements that will evoke emotion. Only those landscapes that are culturally accepted can be sustainable (Nassauer, 1995).

In order to minimize the potential conflict when planning the river area between different cultures / nations, one should take into account the level of trust in the elite and plan the contractors accordingly. Conflicts should be reduced by increasing the experience of the interest groups in accordance with the intended function.

7 POVZETEK

Doktorska disertacija z naslovom »Primerjava vrednostnih ocen slovenskega, madžarskega in hrvaškega prebivalstva o trajnosti na osnovi vizualne transformacije obrečnih krajin« (angl. *Comparison of value attitudes of Slovenian, Hungarian and Croatian citizens on sustainability using visual transformation of the river landscape*) se začenja z uvodnim delom, v katerem je predstavljen širši tematski diskurz, ki ponuja pregled strukture in metode dela.

Kompleksnost preučevanja krajine izvira iz dihotomije subjektivističnih in objektivističnih konceptov s sodobno težnjo k holističnemu, čezdisciplinarnemu in večdisciplinarnemu pristopu v raziskovanju. V disertaciji je podan pregled razvoja odnosa med človekom in naravo s pomočjo preglednih del in empiričnih raziskovanj. Odnos človeka in narave opazujemo ob pomoči etičnih načel, moralnih nosilcev in moralnega obsega, tako da so v prikazu dela opredeljeni pojmi od antropocentrizma do ekocentrizma, od egoizma in altruizma do holizma. Opredeljena sta pojma vrednote in kulture. Ugotovljena je povezava med okvirjem vrednot in odnosom do narave glede na višjedimenzionalni vrednostni okvir Schwartza (1984) in okoliške orientacije, kot sta jih opredelila Schultz in Zelezny (1999).

S pregledom svetovnih medkulturnih raziskovanj vrednosti avtorjev Inglehart (1995), Inglehart in Welzel (2003), Hofstede (1983) in Schwartz (1998) je bilo ugotovljeno, da je nacionalni okvir analogen kulturnemu okvirju; predpostavilo se je, da se bodo na podlagi te predpostavke pojavile razlike v mnenjih, tj. glede na zadnje rezultate empirično raziskanih razlik med tremi opazovanimi narodi v raziskovanjih World Value Survey (2010) in Hofstede (2010).

Sodobni pritiski na rečne krajine so večplastni: rečna krajina postaja večfunkcionalna krajina, v kateri se soočajo narava in narava (suše in poplave), narava in človek (suše, poplave, izkoriščanje resursov, izgradnja, regulacija in podobno) in ne nazadnje človek in človek (različni interesi, lokalna, regionalna in nacionalna raven, prekmejni konflikti in podobno). Rečni prostor pri tem postaja prostor stanovanja, rekreacije, turizma, zaščite, izkoriščanja resursov in proizvodnje energije. Sodobne težnje so usmerjene v integralno planiranje in upravljanje rečnih fenomenov, pri čemur prostorska enota ni več v okviru nacionalnega obsega, temveč v okviru porečja. Vplivi v rečni krajini se prenašajo gorvodno, dolvodno in prekobalno, s čimer se upoštevajo čezmejni vplivi, ki so na primeru večmejnega področja Drave in Mure pokazali, da je zaradi različnih vrednostnih mnenj, avtoritet in legitimnosti različnih nacij to temo treba raziskovati z različnih gledišč.

Avtorji, ki so se ukvarjali z odnosom človeka in narave, so vizualno domeno ocenili za zaželeno skupno platformo subjektivistične in objektivistične paradigme, na kateri se vrednote ene in druge strani lahko srečajo. Teoretični pregled je v delu podan s pregledom grafičnih prikazov, ki imajo na

eni strani človeka, na drugi pa naravo (Zube et al., 1982; Zube, 1987; Tress in Tress, 2001; Gobster et al., 2007, Fry et al., 2009). Rečna krajina je fenomen, za katerega se je ugotovilo, da je poseben prav na področju vizualnega, tj. da je sceničen in da prisotnost vode predstavlja prednost.

Raziskovanja krajine temeljijo na terenskih raziskovanjih ali pa se uporabljajo slikovni materiali. Doslednost teh raziskovanj obravnavata Palmer in Hoffman (2005) in priporočata, da se utemelji vrednost predstavitve vsake krajine in zapis priprave veljavne vizualne simulacije (Palmer in Hoffman, 2005). Simulacije, zasnovo scenarijev in njihovo uporabo v raziskovanju so obravnavali (Van den Berg in Veenklaas, 1995; Emmelin, 1996; Palang, 2000; Sheppard, 2001; Palmer in Hoffman, 2001; Nassauer in Corry, 2004; Westhoek et al., 2006; Stenseke, 2009).

Zastavljena raziskovalna vprašanja se v prvi vrsti ukvarjajo s primerjavami krajine in vrednostne usmeritve anketirancev različnega kulturnega porekla. Pri tem so bile pričakovane razlike v vrednotenju različnih krajin glede na raven naravnosti in različna mnenja o spremembah rečne krajine med kulturo/narodom. Na koncu smo predvidevali, da bodo rezultati pokazali na interesne skupine kot nosilce določenega mnenja o spremembah rečne krajine.

Na podlagi tako zastavljenega problema je bil zasnovan izbor vzorca anketirancev in struktura instrumenta. Anketiranci predstavljajo priložnosten vzorec, ki je razdeljen glede na naslednje koncepte: kulturni/nacionalni (madžarski, slovenski, hrvaški), glede na discipline (trde, mehke umetniške), glede na usmeritve okolja, ki izhajajo iz lestvice v instrumentu, ter kot skupina študentov in strokovnjakov. Skupina študentov je konsistentna skupina mladih anketirancev starih med 18 in 35 let. Zadnja razdelitev, tj. na študente in strokovnjake, je predvidevala in raziskovala razlike glede na leta (starost).

Instrument vsebuje vizualni in pisni del. V vizualnem delu so predstavljene in vrednotene strukturne spremembe rečnega prostora. Šest začetnih scen je bilo izbranih po kriteriju intenzitete človeškega vpliva na sceni. Izbrane scene so prikazane v naslednjem vrstnem redu: popolnoma naravna scena na Dravi pri Podturenu, scena z malim lesenim splavom na Dravi pri Podturenu, Mlin na Muri pri Sv. Martinu na Muri, plaža na ustju Mure v Dravo, splav za motorna vozila na Dravi pri Križnici in most za pešce preko Drave pri Križnici. Vse lokacije so kontaktne točke med hrvaškim in madžarskim ozemljem. Strukturne simulacije so se spreminjale glede na štiri spremenljivke: rastje, raven stika vode in kopna, uporabniki in infrastruktura. Modifikacije so predstavljale štiri funkcije: retoracijo, rekreacijo in turizem, stanovanja in proizvodnjo energije. Pisni del instrumenta je raziskoval mnenja glede na naslednje okvire: okoliška orientacija, mnenja o rečnem prostoru in varstvu pred poplavami, povezanost z rečnim prostorom in mnenja o načrtovanju in upravljanju rečnega prostora (avtoritete in mednarodni subjekti).

Na podlagi empiričnega raziskovanja smo zaključili, da obstajajo razlike med tremi kulturnimi/nacionalnimi skupinami, katerih mnenja se razlikujejo za vse opazovane okvire. Najjasnejši rezultat za tako opazovane skupine je prišel do izraza med vrednotenjem scen z nacionalno hrvaško in slovensko kulturno dediščino na sceni. Razlika med kulturami/nacijami se je pokazala tudi v okviru okoliških orientacij, kar lahko pojasnimo z različnimi konteksti, ki obkrožajo anketirance. Čeprav vse tri raziskovane lokacije (Slovenija – Ljubljana; Madžarska – Kaposvar; Hrvaška – Osijek) vsebujejo reko, imajo povezave z reko povsod drugačen značaj (mesto na reki in reka v mestu).

Anketiranci so začetne scene vrednotili glede na čustva, ki so jih občutili v zvezi s sceno mlina na Muri – to sceno so vrednotili kot prvo. Nato so vrednotili naslednje scene glede na raven naravnosti: od popolnoma naravne scene do scene z mostom za pešce na Križnici. Raziskovalo se je tudi, po katerem kriteriju glede na začetno sceno bodo anketiranci vrednotili funkcionalne transformacije. Rezultati so pokazali, da anketiranci ocenjujejo zmeren človeški vpliv kot kvaliteto, ki je ne želimo ogrožati. Hidroelektrarna je ocenjena kot neželena s strani vseh skupin. Toda v primerjavi vrednotenja scen s hidroelektrarno se je pokazalo, da je ta sprejemljivejša v popolnoma naravni okolici kot pa ob lesenem splavu, mlinu ali toboganu na plaži. Sistem vrednotenja, ki so ga imeli anketiranci na razpolago za naravno okolja, je bil drugačen od tistega za scene z zmernim človeškim vplivom in od tistega za sceno z mostom za pešce, ki je predstavljal največji človeški vpliv. Kulturna/nacionalna razlika se je pojavila tudi pri mnenjih o različnih subjektih planiranja in upravljanju rečnega prostora, pri čemer so prišle do izraza tudi mehke vede (humanistična usmeritev). Kulturne/nacionalne razlike so prišle do izraza tudi pri vrednotenju izjave, da morajo bogatejše države bolj paziti na ekološke probleme, pri čemer so madžarski in hrvaški študenti to izjavo ovrednotili pozitivno, slovenski pa negativno. Z razdelitvijo po disciplinah je do izraza prišla skupina študentov umetniških akademij z mnenji o lepoti krajine in z radikalnimi ekološkimi mnenji. Strokovnjaki so izrazili večjo preferenco do začetnih scen kot pa mlajši anketiranci ter so dali podporo trajnostni paradigmi za rečne prostore s stoodstotnim deležem pozitivnih odgovorov.

Disertacija v prvi vrsti predstavlja empirično delo primerjave mnenj madžarskih, slovenskih in hrvaških anketirancev glede na preobrazbo rečnega prostora na primeru Drave in Mure. V disertaciji pridemo do zaključkov, da se pri vrednotenju vizualne transformacije rečnega prostora začetno stanje narave ne šteje kot ranljivost in da večja povezanost in izkušnje vodijo k temu, da se preobrazba ocenjuje v projekciji posledic na človeka – ljudi, medtem ko manjša izkušnja vpliva na transcendenco vrednosti širšega pojma narave na ožji fenomen – reko. Rezultati kažejo na to, da je čustvo, ki je povezano z nacionalnim simbolom, impulz, ki vpliva na spremembo vrednostnega sistema ocenjevanja preobrazbe rečnega prostora.

Kulturna razlika se je na priložnostnem vzorcu izkazala v domeni zaupanja v elite pri odločanju o načrtovanju in upravljanju rečnega prostora, in sicer tako, da je vzorec, ki prihaja iz kulture s potrjenimi postmaterialističnimi vrednotami na nacionalni ravni, izkazal nezaupanje v elite. V planiranju novih funkcij v rečnem prostoru, kot sta prostora Drave in Mure, pride v poštev, da se pri načrtovanju regionalnega obsega raziščejo vrednotni sistemi, ki so povezani z ožjim obsegom načrtovanih transformacij. Planiranje novih funkcij je treba uskladiti z obstoječim človeškim vplivom na načrtovani lokaciji, sprejemljivost preobrazbe pa usmeriti v elemente, ki bodo evocirali čustva. Zgolj tiste krajine, ki so kulturno sprejete, so lahko tudi trajnostne (Nassauer, 1995).

Da bi se zmanjšal potencial konflikta pri planiranju rečnih prostorov med različnimi kulturami/nacijami, je treba upoštevati raven zaupanja v elite ter aktivnosti akterjev načrtovati v skladu s tem. Zmanjšanje konflikta je treba načrtovati s povečanjem izkušnje interesnih skupin v skladu z načrtovano funkcijo.

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PRILOGA A

Tisztelt Asszonyom/Uram!

A következő kérdőív az Ön környezetről, a technikai megoldásokról, a társadalomról, kultúráról és a folyókról, valamint azok egymáshoz való viszonyáról és azok fejlesztési lehetőségeiről alkotott elveit , véleményét vizsgálja. Hálás lennék, amennyiben őszinte válaszaival segítené ezt a kutatómunkát.
A kérdőív két egységből áll.
Az első részben képek szimulálják egyes folyóvidékek lehetséges fejlesztését, a második rész az Ön környezettel és a környezetvédelemmel kapcsolatos, személyes értékrendjéről tesz fel kérdéseket. Végül az Ön életében legfontosabbnak tartott értékekről és az Ön demográfiai adatairól kérdezzük.

Kérjük, fél órát szánjon a kérdőív kitöltésére! A kérdőív anonim, tehát nem szükséges nevét és címét feltűntetnie.

Dina Stober

FOTÓKÉRDŐÍV KITÖLTÉSI ÚTMUTATÓ

A következő oldalakon összesen 30 képet fog látni 6 szettre osztva.

Az első kép mindenegyes szettben a Mura vagy a Dráva folyóvidékének eredeti állapotát mutatja be. A következő egyes jeleneteken a különböző emberi behatások láthatók, a teljesen természetes környezet, faszerkezetek , a Murán álló malom, a csúzdás strandok, Dráva- átkelő Križnicánál a hídig.

Ezeket a képeket megváltoztattuk négy fejlesztési elképzelés szerint.

Az első változtatás a vízfolyás renaturalizációja és a környezet alkalmassá tétele az ár vizének befogadására– a part szélesítése, a magas fák eltávolítása az állatok természetes élőhelyükön történő megjelenésének feltételezésével.

A másik képsor fejlesztési elképzelése turisztikai jellegű, pihenést és sportot- fürdést, napozást, horgászatot feltételez, a környezet minimálisan változik (kerékpárút, játszótér, ponton).

A harmadik esetben feltételezzük az ember hatását és jelenlétét. Láthatók az autohtón épületek, a gépkocsival való elérhetőség és a part vonalának kiemelése eredeti helyi kövekkel.

Az utolsó képsor mutatja az ember legintenzívebb beavatkozását a természeti környezetbe, látható egy kisebb vízerőmű. A partot ipari betonelemekkell építették ki, lehetőség van a terület autóval való megközelítésére, a zöldövezet kiterjedtsége csökkent.

Kérem,hogy az egyes jeleneteket rangsorolja 1-től 5-ig úgy, hogy az **1 az Ön számára legjobb megoldás, az 5 pedig a legrosszabbnak tartott megoldás.** A számot a kép alatti négyzetbe írja be!

Kérem, hogy a jeleneteken karikázza be azt, ami azon Ön szerint jó, és húzza át azt, ami Ön szerint rossz.

JÓ ROSSZ

Rajzolja oda, ami Ön szerint javítana az összhatáson! A jelenet alá írja oda benyomásait!

Végül kérem, hogy válassza ki **a három legjobb és a három legrosszabb jelenetet**, és írja be őket a négyzetbe az utolsó oldalon.

Köszönöm!

A HÁROM LEGJOBB ☐ ☐ ☐

A HÁROM LEGROSSZABB ☐ ☐ ☐

1

Kérem,hogy az egyes jeleneteket rangsorolja 1-től 5-ig úgy, hogy az **1 az Ön számára legjobb megoldás, az 5 pedig a legrosszabbnak tartott megoldás.**
A számot a kép alatti négyzetbe írja be!
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JÓ ROSSZ

Rajzolja oda, ami Ön szerint javítana az összhatáson!

A jelenet alá írja oda benyomásait!

1A

1B

1C

1D

2

Kérem,hogy az egyes jeleneteket rangsorolja 1-től 5-ig úgy, hogy az **1 az Ön számára legjobb megoldás, az 5 pedig a legrosszabbnak tartott megoldás.**
A számot a kép alatti négyzetbe írja be!
Kérem, hogy a jeleneteken karikázza be azt, ami azon Ön szerint jó, és húzza át azt, ami Ön szerint rossz.

JÓ ROSSZ

Rajzolja oda, ami Ön szerint javítana az összhatáson!

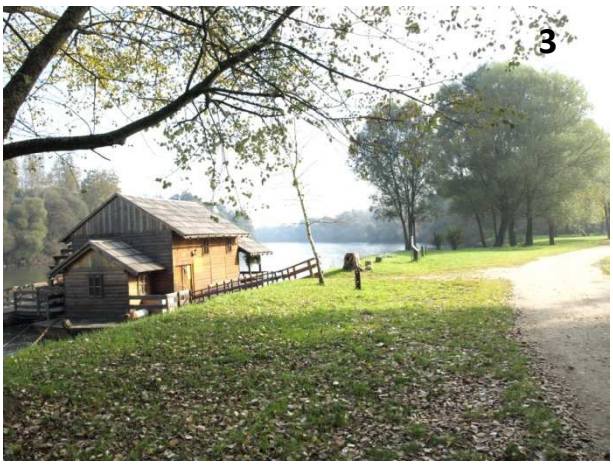
A jelenet alá írja oda benyomásait!

2A

2B

2C

2D



Kérem,hogy az egyes jeleneteket rangsorolja 1-től 5-ig úgy, hogy az **1 az Ön számára legjobb megoldás, az 5 pedig a legrosszabbnak tartott megoldás.**
A számot a kép alatti négyzetbe írja be!
Kérem, hogy a jeleneteken karikázza be azt, ami azon Ön szerint jó, és húzza át azt, ami Ön szerint rossz.

JÓ ROSSZ

Rajzolja oda, ami Ön szerint javítana az összhatáson!

A jelenet alá írja oda benyomásait!

Kérem,hogy az egyes jeleneteket rangsorolja 1-től 5-ig úgy, hogy az **1 az Ön számára legjobb megoldás, az 5 pedig a legrosszabbnak tartott megoldás.**

A számot a kép alatti négyzetbe írja be!

Kérem, hogy a jeleneteken karikázza be azt, ami azon Ön szerint jó, és húzza át azt, ami Ön szerint rossz.

JÓ ROSSZ

Rajzolja oda, ami Ön szerint javítana az összhatáson!

A jelenet alá írja oda benyomásait!

5

Kérem,hogy az egyes jeleneteket rangsorolja 1-től 5-ig úgy, hogy az **1 az Ön számára legjobb megoldás, az 5 pedig a legrosszabbnak tartott megoldás.**
A számot a kép alatti négyzetbe írja be!
Kérem, hogy a jeleneteken karikázza be azt, ami azon Ön szerint jó, és húzza át azt, ami Ön szerint rossz.

JÓ ~~ROSSZ~~

Rajzolja oda, ami Ön szerint javítana az összhatáson!

A jelenet alá írja oda benyomásait!

5A

5B

5C

5D

Kérem,hogy az egyes jeleneteket rangsorolja 1-től 5-ig úgy, hogy az **1 az Ön számára legjobb megoldás, az 5 pedig a legrosszabbnak tartott megoldás.**
A számot a kép alatti négyzetbe írja be!
Kérem, hogy a jeleneteken karikázza be azt, ami azon Ön szerint jó, és húzza át azt, ami Ön szerint rossz.

JÓ ROSSZ

Rajzolja oda, ami Ön szerint javítana az összhatáson!

A jelenet alá írja oda benyomásait!

1. **Tart-e a víztároló gátak és hidak földrengés okozta összeomlásától?**
Karikázza be a véleményének megfelelő választ!

IGEN NEM NEM TUDOM

2. **Az alábbi állítások a természet, a technológia , az ember és a kultúra viszonyára vonatkozó állásfoglalások. Milyen mértékben ért egyet a felsorolt állításokkal?***Karikázza be a véleményének leginkább megfelelő választ!*

1.	**Az ember a természet abszolút ura, abban él, és a természethez tetszése szerint viszonyulhat.**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
2.	**A technikai vívmányok az emberiség javát szolgálják**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
3.	**Egy vidék eredeti állapotának megőrzése, a vidék lakosságának fejlettebb kultúráját is jelenti**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
4.	**A folyók földrajzilag és kulturálisan is összekötik azokat a területeket, amelyeken áthaladnak**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
5.	**A folyó az embernek csak pihenésre, rekreációra és élményszerzésre szolgáljon**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
6.	**Ma az ember teljes mértékben ellenőrzése alatt tartja a legmodernebb technológiát is, így meg tudja akadályozni a lehetséges katasztrófákat**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
7.	**A természet védelme a társadalom minden mást megelőző, elsődleges feladata**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
8.	**A folyó mentén épült városok szebbek a folyó nélküli városoknál**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni

3. **A folyóvidékkel kapcsolatos ügyek végzésével különböző intézmények és csoportok foglalkoznak különböző szinteken- országos, regionális és helyi szinten. Véleménye szerint ki ért a legjobban a folyókat érintő problematikához?**

1.	**állami szervek országos szinten**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
2.	**állami szervek regionális szinten**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
3.	**állami szervek helyi szinten**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
4.	**kormányon kívüli környezetvédelmi egyesületek**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
5.	**tudósok és szakemberek**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
6.	**a folyómenti lakosság**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
7.	**a folyómenti területek tulajdonosai**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni

4. A folyók több országon haladnak át, és ezáltal a folyókat ért hatások folyásuk irányának megfelelően eljutnak szélesebb területekre is. Milyen mértékben ért egyet az alábbi állításokkal? *Karikázza be a véleményének legmegfelelőbb választ!*

1.	**Az államhatárokon húzódó folyók ügyeivel közös nemzetközi szervnek kellene foglalkoznia**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
2.	**Azoknak a gazdagabb országoknak, amelyek területén folyó halad át, jobban kellene ügyelniük az ökológiai problémákra, mint a kevésbé fejlett országoknak.**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni

5. A folyókról szóló nemzetközi megállapodásoknak Ön szerint tartalmaznia kellene:

8.	**vízerőmű építését**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
9.	**biorezervátumokat**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
10.	**ökológiai problémákat**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
11.	**hajóutakat**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
12.	**turista övezeteket**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
13.	**természeti parkokat**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
14.	**lakóövezeteket**	egyáltalán nem értek egyet	lényegében nem értek egyet	egyet is értek, nem is	lényegében egyet értek	teljesen egyetértek	nem tudom, nem kívánok válaszolni

6. Melyik folyónál járt utoljára (akár csak elment mellette)? *Írja a vonalra a folyó nevét!*

_____

7. Átlagban milyen gyakran látogat folyópartra? *Karikázza be az Önnek megfelelő választ!.*

a) gyakran, mindennap vagy többször egy héten

b) ritkán, néhányszor évente

c) nagyon ritkán, több év alatt egyszer

d) soha

8. Hányszor jár folyóparton az alábbi célokból?
Karikázza be az Önnek megfelelő választ! .

séta	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha
napozás	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha
sport	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha
horgászat	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha
edukáció	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha
vízerőmű látogatása	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha
hétvégi házban tartózkodás	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha
egyéb _____	naponta	hetente többször	hetente egyszer	havonta egyszer	évente egyszer	ritkábban, mint évente egyszer	soha

9. Mire emlékszik vissza legutóbbi folyóparti útjából? *Kérem, néhány fogalom vonalra jegyzésével jellemezze benyomásait!*

_____

10. A következő állítások a folyók környezetbeni szerepét és az Ön véleményét vizsgálják , amely a folyók illetékes használójára vonatkozik. Mennyire ért egyet a folyómenti területekre vonatkozó állításokkal? *Karikázza be a véleményének legmegfelelőbb választ!* .

1.	**A folyóparti táj szebb, mint más természeti táj**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
2.	**A folyókra és a folyómenti területekre leginkább a madaraknak és a vízinövényeknek van szüksége**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
3.	**A folyóvidéket fenntartható módon kell fejleszteni**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
4.	**A folyók túl értékesek ahhoz, hogy az ember ezt ne használná ki**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
5.	**A folyókra minden más természeti környezetnél is jobban kell vigyázni**	egyáltalán nem értek egyet	általában nem értek egyet	egyet is értek, nem is	általában egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni

11. A folyóvidékhez különböző tartalmak köthetők. Mit tart fontosnak a folyóvidék (pl. Mura vagy Dráva vidékének) fejlesztése tekintetében? *Karikázza be az Ön véleményének leginkább megfelelő választ!*

1.	**vízerőmű építése elektromos áram előállításához**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
2.	**a folyó jobb elérhetősége**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
3.	**az autohtón architektúra védelme**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
4.	**víkendházak építése**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
5.	**a turisztikai kínálat fejlesztése**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
6.	**a madarak természetes élőhelyének védelme**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
7.	**folyókavics kitermelése**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
8.	**haltenyésztés**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
9.	**árvízvédelem**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
10.	**mezőgazdasági tevékenység fejlesztése**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni
11.	**folyóvidéki tudományos ismeretszerzés**	egyáltalán nem fontos	lényegében nem fontos	fontos is, nem is	lényegében fontos	nagyon fontos	nem tudom, nem kívánok válaszolni

12. A területtervezés során meghatározzák az egyes területek rendeltetését jellegzetességeik figyelembevételével. Az Ön meglátása szerint mennyire fontosak az alábbi jellemzők a folyóvidék rendeltetésének tervezésében?
Értékelje1-től 5 -ig a szempont fontosságát! 1 – egyáltalán nem fontos, 2 - inkább nem fontos, 3 – fontos is, nem is, 4 – többnyire fontos 5 – nagyon fontos

elérhetőség gépkocsival	**1**	**2**	**3**	**4**	**5**
a táj szépsége	**1**	**2**	**3**	**4**	**5**
rendezett környezet	**1**	**2**	**3**	**4**	**5**
a folyó hajózhatósága	**1**	**2**	**3**	**4**	**5**
érintetlen természet	**1**	**2**	**3**	**4**	**5**
árvízvédelem	**1**	**2**	**3**	**4**	**5**

13. Az utóbbi években megnövekedett az árvizek száma. Milyen mértékben ért egyet azzal, hogy az árvizek ellen az alábbi intézkedésekkel kellene védekezni? *Karikázza be azt a kijelentést, amely a leginkább megfelel véleményének!*

1.	**betongátakkal és töltésekkel**	egyáltalán nem értek egyet	általában véve nem értek egyet	egyet is értek, nem is	lényegében egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
2.	**a part szélesítésével és mellékágas vízelvezetéssel**	egyáltalán nem értek egyet	általában véve nem értek egyet	egyet is értek, nem is	lényegében egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
3.	**tó és vízerőmű létrehozásával**	egyáltalán nem értek egyet	általában véve nem értek egyet	egyet is értek, nem is	lényegében egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni
4.	**nincs szükség semmilyen lépésre**	egyáltalán nem értek egyet	általában véve nem értek egyet	egyet is értek, nem is	lényegében egyetértek	teljesen egyetértek	nem tudom, nem kívánok válaszolni

14. Gondoljon az alábbi fogalmakra, és határozza meg, azok mennyire vonzóak a folyóvidéken!
Karikázza be az Ön véleményének leginkább megfelelő választ!

1.	**állatok**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
2.	**cserjék,bokrok**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
3.	**fák**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
4.	**víkendházak**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
5.	**horgászok**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
6.	**fürdőzők**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
7.	**vízerőművek**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
8.	**folyami malmok**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
9.	**kerékpárutak**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni
10.	**csónakok**	egyáltalán nem vonzóak	inkább nem vonzóak	vonzóak is, nem is	lényegében vonzóak	nagyon vonzóak	nem tudom, nem kívánok válaszolni

Kérem, adja meg az Önre vonatkozó adatokat , és jelölje az alábbi fogalmak jelentőségét az Ön értékrendjében! *A kérdőív anonim.*

Neme? *Karikázza be a választ!* ***F*** **N**

Kora? *Karikázza be a választ!*

a)16-19 **c) 26-30** **e) 35** felett

b)20-25 **d) 30-35**

Születési hely: _____
Kérem, írja a vonalra a helység nevét!

Hogyan írnád le a helységet, ahol élsz

a) nagy helység
b) külváros
c) kis helység
d) falu
e) ház vidéken (tájan).

Állampolgársága *Karikázza be a választ!* ***HU*** ***HR*** ***SLO***

Nemzetiség *Kérem, írja a vonalra!* _____

Vallás *Kérem, karikázza be a megfelelőt vagy írja válaszát a vonalra!*

a) katolikus
b) pravoszláv
c) protestáns
d) iszlám
e) zsidó
f) ateista
g) egyéb_____

Írt-e már alá petíciót a környezetért? *Karikázza be a választ!* **IGEN NEM**

Vannak-e a környezet szennyezettségéből eredő egészségügyi problémái, mint pl. allergia, asztma stb.?

IGEN NEM

Osztályozza az alábbi fogalmakat aszerint, hogy az Ön életében mennyire játszanak fontos szerepet! *Karikázza be: 1 - egyáltalán nem fontos, 2 – inkább nem fontos, 3- fontos is, nem is, 4 –lényegében fontos, 5 –nagyon fontos*

gazdagság	**1**	**2**	**3**	**4**	**5**
egészség	**1**	**2**	**3**	**4**	**5**
informáltság	**1**	**2**	**3**	**4**	**5**
családi kapcsolatok	**1**	**2**	**3**	**4**	**5**
külső	**1**	**2**	**3**	**4**	**5**
tudás	**1**	**2**	**3**	**4**	**5**
tekintély, hírnév	**1**	**2**	**3**	**4**	**5**
karrier	**1**	**2**	**3**	**4**	**5**

Köszönöm!

PRILOGA B

Spoštovani,

pričujoča anketa raziskuje stališča in mišljenja o okolišu, tehničnih rešitvah, družbi, kulturi in rekah ter njihovih medsebojnih razmerjih in zmožnostih razvoja.
Zahvaljujem se Vam, če boste s svojimi iskrenimi stališči in mišljenji dali svoj doprinos temu raziskovanju.

Anketa je sestavljena iz dveh celot.
V prvem delu slikovni prikazi simulirajo možne razvoje neke pokrajine ob reki, medtem ko drugi del ankete sestavljajo vprašanja o osebnih vrednostnih preferencah glede zaščite okolja in sam okolje. Na koncu ankete so vprašanja o osnovnih vrednotah v življenju in o Vaših demografskih podatkih.

Prosimo Vas, da si vzamete pol ure Vašega časa in odgovorite na vprašanja iz vprašalnika. Vprašalnik izpolnjujete anonimno, tako da ni potrebno navesti imena ali naslova.

Dina Stober

NAVODILA ZA IZPOLNJEVANJE FOTO VPRAŠALNIKA

Na naslednjih straneh boste videli skupno 30 slikovnih prikazov, razdeljenih v 6 sklopov.

Prva slika v vsakem sklopu prikazuje originalno sceno pokrajine ob rekah Muri ali Dravi. V scenah so prisotni različni človeški vplivi, od popolnoma naravne pokrajine, lesenega broda, mlina na Muri, plaže s toboganom, prehoda prek Drave pri Križnici.

Ti prikazi se spreminjajo glede na štiri razvojne scenarije.

Prva sprememba zajema renaturalizacijo vodotoka in prilagoditev obrečne krajine varstva pred poplavami – širjenje obale, odstranjevanje visokega drevja in predpostavlja navzočnost živali v naravnem življenjskem prostoru.

Drugi prikaz je scena razvoja turistične vsebine za prosti čas in šport – kopanje, sončenje, ribištvo, kjer se okolje minimalno spreminja (kolesarska steza, otroško igrišče, pomol…)

Tretji prikaz predpostavlja večji vpliv in prisotnost človeka. Prikazane so hiše, pristop z avtomobilom in utrjevanje obale z naravnim lokalnim kamnom.

Zadnji in najintenzivnejši vpliv človeka na naravo prikazuje, kako bi izgledala manjša hidroelektrarna v opazovanem okolju. Obala je utrjena z betonskimi prefabrikati, omogočen je pristop z avtomobilom in je manj drevja oz. narvnih sestavin.

Prosim Vas, da prikazane scene ovrednotite od 1 do 5 tako, da je **1 za Vas najboljša rešitev, 5 najslabša rešitev**. Vsako sliko ocenite s številko od 1 do 5 in jo vpišite v okvirček pod sliko.

Prosim vas, da v scenah obkrožite, kar je glede na Vaše mišljenje v sceni dobro, prečrtajte pa tisto, kar je slabo.

DOBRO SLABO

Če želite, v scene dorišite elemente, za katere mislite, da bi popravili vtis. Prosim Vas, da na črto pod sceno napišete svoje vtise.

Na kraju Vas prosim, da izberete **tri najboljše in tri najslabše scene** ter jih vpišite v okvire na zadnji strani.

Hvala!

TRI NAJBOLJŠE SCENE ☐ ☐ ☐

TRI NAJSLABŠE SCENE ☐ ☐ ☐

1

Prosim Vas, da prikazane scene ovrednotite od 1 do 5 tako, da je **1 za Vas najboljša rešitev, a 5 najslabša rešitev**.

Vsaki sliki pridružite številko od 1 do 5 in jo vpišite v okvirček pod sliko.

Prosim vas, da v scenah obkrožite, kar je glede na Vaše mišljenje v sceni dobro, prečrtajte pa tisto, kar je slabo.

DOBRO SLABO

Če želite, v scene dorišite elemente, za katere mislite, da bi popravili vtis.

Prosim Vas, da na črto pod sceno napišete svoje vtise.

1A

1B

1C

1D

Prosim Vas, da prikazane scene ovrednotite od 1 do 5 tako, da je **1 za Vas najboljša rešitev, a 5 najslabša rešitev**.

Vsaki sliki pridružite številko od 1 do 5 in jo vpišite v okvirček pod sliko.

Prosim vas, da v scenah obkrožite, kar je glede na Vaše mišljenje v sceni dobro, prečrtajte pa tisto, kar je slabo.

DOBRO SLABO

Če želite, v scene dorišite elemente, za katere mislite, da bi popravili vtis.

Prosim Vas, da na črto pod sceno napišete svoje vtise.

Prosim Vas, da prikazane scene ovrednotite od 1 do 5 tako, da je **1 za Vas najboljša rešitev, a 5 najslabša rešitev**.

Vsaki sliki pridružite številko od 1 do 5 in jo vpišite v okvirček pod sliko.

Prosim vas, da v scenah obkrožite, kar je glede na Vaše mišljenje v sceni dobro, prečrtajte pa tisto, kar je slabo.

DOBRO SLABO

Če želite, v scene dorišite elemente, za katere mislite, da bi popravili vtis.

Prosim Vas, da na črto pod sceno napišete svoje vtise.

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Prosim vas, da v scenah obkrožite, kar je glede na Vaše mišljenje v sceni dobro, prečrtajte pa tisto, kar je slabo.

DOBRO SLABO

Če želite, v scene dorišite elemente, za katere mislite, da bi popravili vtis.

Prosim Vas, da na črto pod sceno napišete svoje vtise.

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Vsaki sliki pridružite številko od 1 do 5 in jo vpišite v okvirček pod sliko.

Prosim vas, da v scenah obkrožite, kar je glede na Vaše mišljenje v sceni dobro, prečrtajte pa tisto, kar je slabo.

DOBRO SLABO

Če želite, v scene dorišite elemente, za katere mislite, da bi popravili vtis.

Prosim Vas, da na črto pod sceno napišete svoje vtise.

Prosim Vas, da prikazane scene ovrednotite od 1 do 5 tako, da je **1 za Vas najboljša rešitev, a 5 najslabša rešitev**.

Vsaki sliki pridružite številko od 1 do 5 in jo vpišite v okvirček pod sliko.

Prosim vas, da v scenah obkrožite, kar je glede na Vaše mišljenje v sceni dobro, prečrtajte pa tisto, kar je slabo.

DOBRO SLABO

Če želite, v scene dorišite elemente, za katere mislite, da bi popravili vtis.

Prosim Vas, da na črto pod sceno napišete svoje vtise.

6

6A

6B

6C

6D

1. Ali se bojite posledic potresa, kot so rušenje akumulacijskih nasipov ali mostov?
Obkrožite odgovor, ki ustreza Vašemu stališču.

DA NE NE VEM

2. Naslednje trditve izražajo stališča o povezavah med naravo*, tehnologijo, človekom in kulturo*. V kakšni meri se strinjate z navedenimi trditvami?
Obkrožite odgovor, ki najbolj ustreza Vašemu stališču.

1.	**Človek je absolutni gospodar narave v kateri živi in se do narave lahko vede po lastni volji**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
2.	**Razvoj tehničnih rešitev človeštvu prinaša nova blagostanja in uživanja**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
3.	**Če je neka pokrajina ohranjena in izvorna, je tudi kultura prebivalcev tega kraja bolj napredna**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
4.	**Reke fizično in kulturno povezujejo prostore skozi katere tečejo**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
5.	**Reka mora služiti človeku samo za dopust, rekreacijo in uživanje v lepem razgledu**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
6.	**Danes človek popolnoma kontrolira tudi najsodobnejšo tehnologijo in s tem preprečuje možne nesreče**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
7.	**Ohranitev narave ima prednost pred vsemi drugimi nalogami družbe**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
8.	**Mesta, skozi katere teče reka, so lepša od mest, ki nimajo reke**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti

3. Z rečnim prostorom upravljajo različne institucije in grupe na različnih nivojih – nacionalnem, regionalnem in lokalnem. Kdo, po Vašem mišljenju, najbolje razume probleme reke?

1.	**državne službe na nacionalnem nivoju**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
2.	**državne službe na regionalnem nivoju**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
3.	**državne službe na lokalnem nivoju**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
4.	**nevladna društva za zaščito okolja**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
5.	**znanstveniki in strokovnjaki**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
6.	**prebivalstvo ob reki**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
7.	**lastniki zemljišča ob reki**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti

4. Reke tečejo skozi več držav in tako prenašajo vplive s tokom navzdol tudi v širši prostor. V kakšni meri se strinjate z naslednjimi trditvami? *Obkrožite odgovor, ki najbolj ustreza Vašemu stališču.*

1.	**Z rekami, ki se nahajajo na meji morajo upravljati skupni mednarodni organi.**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
2.	**Bogatejše države, skozi katere teče reka, morajo bolj paziti na ekološke probleme od manj razvitih držav.**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti

5. Mednarodni sporazumi o rekah bi po Vašemu mišljenju morali urejati:

8.	**gradnjo hidroelektrarn**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
9.	**biorezervate**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
10.	**ekološke probleme**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
11.	**plovne poti**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
12.	**turistične zone**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
13.	**naravne parke**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
14.	**zone stanovanja**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti

6. Katera je zadnja reka, ki ste jo obiskali (v smislu, da ste šli mimo te reke)? *Napišite ime reke.*

_____

7. Kako pogosto, v povprečju, obiskujete prostor ob reki? *Obkrožite črko ob odgovoru, ki ustreza Vaši situaciji.*

a) pogosto, vsakodnevno ali nekajkrat na teden

b) redko, nekajkrat na leto

c) zelo redko, enkrat na nekaj let

d) nikoli

8. Kako pogosto ste obiskali neko reko zaradi:
Obkrožite odgovor, ki ustreza Vaši situaciji.

sprehoda	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli
sončenja	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli
športa	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli
ribolova	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli
edukacije	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli
obiska hidroelektrarn	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli
bivanja v vikend hišici	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli
nečesa drugega _____	vsakodnevno	nekajkrat na teden	enkrat na teden	enkrat na mesec	enkrat na leto	bolj poredko kot enkrat na leto	nikoli

9. Česa se spominjate z zadnjega obiska ob reki? *Prosim Vas, da na črto vpišete nekaj pojmov, ki opisujejo Vaše najmočnejše vtise:*

_____

10. Naslednje trditve raziskujejo položaj rek v okolju in Vaše stališče o tem, kdo naj bi jih uporabljal. V kakšni meri se strinjate z naslednjimi trditvami o prostoru ob reki? *Obkrožite odgovor, ki najbolj ustreza Vašemu stališču.*

1.	**Rečna pokrajina je lepša od drugih naravnih pokrajin**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
2.	**Reke in prostor okrog njih najbolj potrebujejo ptice in rečne rastline**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
3.	**Rečna pokrajina se mora trajnostno razvijati**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
4.	**Reke so preveč dragocene, da jih človek ne bi uporabljal**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
5.	**Reke treba varovati bolj kot druga naravna okolja**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti

11. V prostoru ob reki se lahko pojavijo različne vsebine. Kaj smatrate, da je pomembno za razvoj področja ob neki reki, npr. ob Muri ali Dravi? *Obkrožite odgovor, ki najbolj ustreza Vašemu stališču.*

1.	**izgradnja hidroelektrarn za proizvodnjo električne energije**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
2.	**večja dostopnost do reke**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
3.	**zaščita avtohtone arhitekture**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
4.	**izgradnja vikend naselja**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
5.	**razvoj turistične ponudbe**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
6.	**zaščita naravnih življenjskih prostorov ptic**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
7.	**izkopavanje gramoza**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
8.	**ribogojstvo**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
9.	**zaščita pred poplavo**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
10.	**razvoj poljedelskih dejavnosti**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti
11.	**znanstvena spoznanja o prostoru**	sploh ni pomembno	v glavnem ni pomembno	ni niti pomembno niti nepomembno	v glavnem je pomembno	zelo je pomembno	ne vem, ne želim odgovoriti

12. Prostorno planiranje določa namen nekega prostora na način, da upošteva karakteristike tega prostora. Koliko so, glede na vaš občutek, pomembni naslednji pojmi za planiranje namena v obalnem prostoru reke?
Pomembnost pojmov ocenite od 1 do 5, 1 pomeni sploh ni pomembno, 2 –v glavnem ni pomembno, 3 – ni niti pomembno niti nepomembno, 4 – v glavnem je pomembno in 5 –zelo je pomembno

dostopnost z avtomobilom	**1**	**2**	**3**	**4**	**5**
lepota pokrajin	**1**	**2**	**3**	**4**	**5**
že urejeno okolje	**1**	**2**	**3**	**4**	**5**
plovnost reke	**1**	**2**	**3**	**4**	**5**
nedotaknjena narava	**1**	**2**	**3**	**4**	**5**
zaščita pred poplavo	**1**	**2**	**3**	**4**	**5**

13. V zadnjih letih so poplave pogost pojav. V kakšni meri se strinjate, da bi se morali pred poplavami braniti s predlaganimi ukrepi? *Obkrožite izjavo, ki najbolj odraža Vaše stališče.*

1.	**z betonskimi obalnimi utrdbami in nasipi**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
2.	**s širjenjem obale in prekopavanjem rokavov**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
3.	**z izgradnjo jezera in hidroelektrarn**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti
4.	**ničesar ni potrebno storiti**	sploh se ne strinjam	v glavnem se ne strinjam	se niti strinjam niti ne strinjam	v glavnem se strinjam	popolnoma se strinjam	ne vem, ne želim odgovoriti

14. Poskušajte si zamisliti navedene pojme in ocenite koliko so privlačni v prostoru ob reki?
Obkrožite izjavo, ki najbolj odraža Vaše stališče.

1.	**živali**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
2.	**grmovje**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
3.	**drevje**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
4.	**vikendi**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
5.	**ribiči**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
6.	**kopalci**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
7.	**hidroelektrarna**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
8.	**rečni mlin**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
9.	**kolesarska steza**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti
10.	**čolni**	sploh ni privlačno	v glavnem ni privlačno	ni niti privlačno niti neprivlačno	v glavnem je privlačno	zelo je privlačno	ne vem, ne želim odgovoriti

Prosim Vas, da odgovorite na naslednja vprašanja o Vaših osnovnih podatkih in stališčih o splošnih življenjskih vrednotah. *Vprašalnik je anonimen.*

Katerega spola ste? *Obkrožite odgovor* **M Ž**

Starost *Obkrožite odgovor*

a)16-19 **c) 26-30** **e) več kot 35**

b)20-25 **d) 30-35**

Kraj rojstva
Prosim Vas, napišite ime kraja _____

Kraj Vašega bivališča
Prosim Vas, napišite ime kraja _____

Kako bi opisali kraj, v katerem živite

a) velik kraj
b) predmestje
c) majhen kraj
d) vas
e) hiša v pokrajini

Državljanstvo *Obkrožite odgovor* ***HU*** ***HR*** ***SLO***

Narodnost *Prosim Vas, napišite* _____

Vera *Prosim Vas, obkrožite ponujeni odgovor ali napišite odgovor na črto.*

a) Katoliška
b) Pravoslavna
c) Protestantska
d) Islam
e) Židovska
f) ateist
g) neka druga_____

Ali ste kdaj podpisali peticijo za okoliš? *Obkrožite odgovor* **DA NE**

Ali imate zdravstvene probleme zaradi onesnaženja, npr. alergije, astmo in podobno? **DA NE**

Ocenite naslednje vrednote glede na njihovo pomembnost v Vašem življenju.
Obkrožite oceno 1 - niti najmanj pomembno, 2 – v glavnem nepomembno, 3- niti pomembno niti nepomembno, 4 – v glavnem pomembno, 5 – zelo pomembno

bogastvo	**1**	**2**	**3**	**4**	**5**
zdravje	**1**	**2**	**3**	**4**	**5**
informiranost	**1**	**2**	**3**	**4**	**5**
povezanost z družino	**1**	**2**	**3**	**4**	**5**
videz	**1**	**2**	**3**	**4**	**5**
znanje	**1**	**2**	**3**	**4**	**5**
ugled	**1**	**2**	**3**	**4**	**5**
kariera	**1**	**2**	**3**	**4**	**5**

Hvala!

PRILOGA C

Poštovani,

slijedeća anketa istražuje stavove i mišljenja o okolišu, tehničkim rješenjima, društvu, kulturi i rijekama te njihovim međusobnim odnosima i mogućnostima razvoja.
Bila bih Vam zahvalna ako bi svojim iskrenim stavovima i mišljenjima doprinijeli istraživanju.

Anketa se sastoji od dvije cjeline.
U prvom dijelu slikovni prikazi simuliraju moguće razvoje nekog krajolika uz rijeku, a drugi dio ankete sastoji se od pitanja o osobnim vrijednosnim preferencijama u odnosu na zaštitu okoliša i sami okoliš. Na kraju upitnika su pitanja o osnovnim vrijednostima u životu i Vašim demografskim podacima.

Molimo Vas da odvojite pola sata Vašeg vremena i odgovorite na pitanja iz upitnika. Upitnik ispunjavate anonimno, tako da nije potrebno navoditi ime ili adresu.

Dina Stober

UPUTSTVA ZA POPUNJAVANJE FOTO UPITNIKA

Na slijedećim stranicama vidjeti ćete ukupno 30 slikovnih prikaza podijeljenih u 6 setova.

Prva slika na svakom setu set prikazuje originalnu scenu krajolika rijeke Mure ili Drave. Na scenama su prisutni različiti ljudski utjecaji od potpuno prirodnog krajolika, drvene skele, mlina na Muri, plaže s toboganom, prijelaza preko Drave kod Križnice do mosta .

Ti prikazi su promijenjeni prema četiri razvojna scenarija.

Prva promjena obuhvaća renaturalizaciju vodotoka i prilagodbu okoliša za prihvat poplave – širenje obale, uklanjanje visokog drveća i pretpostavlja pojavu životinja u prirodnom staništu.

Drugi je prikaz razvoja turističnog sadržaja za odmaranje i sport – kupanje, sunčanje, ribničarstvo, a okoliš se minimalno mijenja (biciklistička staza, dječje igralište, ponton..)

Treći prikaz pretpostavlja veći čovjekov utjecaj i prisustvo. Prikazane su kuće, pristup automobilom i utvrđivanje obale prirodnim lokalnim kamenom.

Zadnji i najintenzivniji utjecaj čovjeka na prirodu prikazuje kako bi izgledala manja hidrocentrala u promatranom okolišu.Obala je utvrđena betonskim prefabrikatima, omogućen je pristup automobilom i zelenilo je smanjeno.

Molim Vas da prikazane scene rangirate od 1 do 5 tako da je **1 za Vas najbolje rješenje, a 5 najlošije rješenje**. Svakoj slici pridružite broj od 1 do 5 i upišite ga u kućicu ispod slike.

Molim vas da zaokružite na scenama što je prema Vašem mišljenju dobro na sceni, a prekrižite ono što je loše.

Ako želite docrtajte na scene elemente za koje mislite da bi popravili dojam. Molim Vas da na crtu ispod scene napišete svoje dojmove.

Na kraju Vas molim da izaberete **tri najbolje i tri najlošije scene** te ih upišete u kućice ispod.

Hvala!

TRI NAJBOLJE SCENE ☐ ☐ ☐

TRI NAJLOŠIJE SCENE ☐ ☐ ☐

Molim Vas da prikazane scene rangirate od 1 do 5 tako da je **1 za Vas najbolje rješenje, a 5 najlošije rješenje**. **Broj upišite u kućicu ispod slike.**

Molim vas da zaokružite na scenama što je prema Vašem mišljenju dobro na sceni, a prekrižite ono što je loše.

DOBRO LOŠE

Ako mislite da je potrebno docrtajte na scene elemente za koje mislite da bi popravili dojam.

Ispod scene možete napisati Vaše dojmove.

Molim Vas da prikazane scene rangirate od 1 do 5 tako da je **1 za Vas najbolje rješenje, a 5 najlošije rješenje**. **Broj upišite u kućicu ispod slike.**

Molim vas da zaokružite na scenama što je prema Vašem mišljenju dobro na sceni, a prekrižite ono što je loše.

DOBRO **LOŠE**

Ako mislite da je potrebno docrtajte na scene elemente za koje mislite da bi popravili dojam.

Ispod scene možete napisati Vaše dojmove.

Molim Vas da prikazane scene rangirate od 1 do 5 tako da je **1 za Vas najbolje rješenje, a 5 najlošije rješenje**. **Broj upišite u kućicu ispod slike.**

Molim vas da zaokružite na scenama što je prema Vašem mišljenju dobro na sceni, a prekrižite ono što je loše.

DOBRO LOŠE

Ako mislite da je potrebno docrtajte na scene elemente za koje mislite da bi popravili dojam.

Ispod scene možete napisati Vaše dojmove.

Molim Vas da prikazane scene rangirate od 1 do 5 tako da je **1 za Vas najbolje rješenje, a 5 najlošije rješenje**. **Broj upišite u kućicu ispod slike.**

Molim vas da zaokružite na scenama što je prema Vašem mišljenju dobro na sceni, a prekrižite ono što je loše.

DOBRO LOŠE

Ako mislite da je potrebno docrtajte na scene elemente za koje mislite da bi popravili dojam.

Ispod scene možete napisati Vaše dojmove.

5

Molim Vas da prikazane scene rangirate od 1 do 5 tako da je **1 za Vas najbolje rješenje, a 5 najlošije rješenje**. **Broj upišite u kućicu ispod slike.**

Molim vas da zaokružite na scenama što je prema Vašem mišljenju dobro na sceni, a prekrižite ono što je loše.

DOBRO LOŠE

Ako mislite da je potrebno docrtajte na scene elemente za koje mislite da bi popravili dojam.

Ispod scene možete napisati Vaše dojmove.

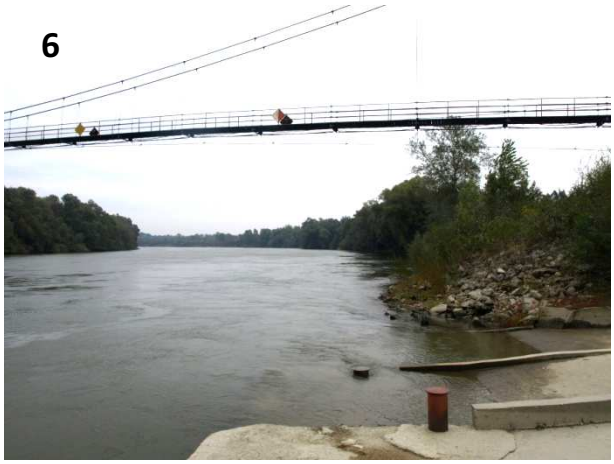
5A

5B

5C

5D

6



Molim Vas da prikazane scene rangirate od 1 do 5 tako da je **1 za Vas najbolje rješenje, a 5 najlošije rješenje**. **Broj upišite u kućicu ispod slike.**

Molim vas da zaokružite na scenama što je prema Vašem mišljenju dobro na sceni, a prekrižite ono što je loše.

DOBRO LOŠE

Ako mislite da je potrebno docrtajte na scene elemente za koje mislite da bi popravili dojam.

Ispod scene možete napisati Vaše dojmove.

6A

6B

6C

6D

1. **Bojite li se posljedica zemljotresa kao što su rušenje akumulacijskih brana ili mostova?**
Zaokružite odgovor koji odgovara Vašem stajalištu.

DA NE NE ZNAM

2. **Slijedeće tvrdnje izražavaju stavove o vezama između *prirode, tehnologije, čovjeka i kulture*. U kojoj mjeri se slažete sa navedenim tvrdnjama?**
Zaokružite odgovor koji najbolje odgovara Vašem stajalištu.

1.	**Čovjek je apsolutni gospodar prirode u kojoj živi i prema njoj se smije odnositi prema vlastitoj volji**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
2.	**Razvoj tehničkih rješenja donosi čovječanstvu nove blagodati i uživanja**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
3.	**Ako je neki krajolik očuvan i izvoran, i kultura stanovnika tog kraja je naprednija**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
4.	**Rijeke fizički i kulturno povezuju prostore kroz koje prolaze**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
5.	**Rijeka treba služiti čovjeku samo za odmor, rekreaciju i uživanje u lijepom pogledu**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
6.	**Danas čovjek potpuno kontrolira i najsuvremeniju tehnologiju i time sprečava moguće nesreće**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
7.	**Očuvanje prirode ima prednost pred svim drugim zadaćama društva**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
8.	**Gradovi kroz koje teče rijeka ljepši su od gradova koji nemaju rijeku**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti

3. **Riječnim prostorom upravljaju različite institucije i grupe na različitim razinama – nacionalnim, regionalnim i lokalnim. Tko se po Vašem mišljenju najbolje razumije u probleme rijeke?**

1.	**državne službe na nacionalnoj razini**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
2.	**državne službe na regionalnoj razini**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
3.	**državne službe na lokalnoj razini**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
4.	**nevladine udruge zaštite okoliša**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
5.	**znanstvenici i stručnjaci**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
6.	**stanovništvo uz rijeku**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
7.	**vlasnici zemljišta uz rijeku**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti

4. Rijeke protječu kroz više država i tako prenose utjecaje nizvodno i u širi prostor. U kojoj mjeri se slažete sa slijedećim tvrdnjama? *Zaokružite odgovor koji najbolje odgovara Vašem stajalištu.*

1.	**Rijekama koje se nalaze na granici trebala bi upravljati zajednička međunarodna tijela.**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
2.	**Bogatije države kroz koje prolazi rijeka trebaju više paziti na ekološke probleme od manje razvijenih država.**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti

5. Međunarodni sporazumi o rijekama trebali bi po Vašem mišljenju uređivati:

8.	**gradnju hidrocentrala**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
9.	**biorezervate**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
10.	**ekološke probleme**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
11.	**plovne putove**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
12.	**turističke zone**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
13.	**parkove prirode**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
14.	**zone stanovanja**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti

6. Koja je zadnja rijeka koju ste posjetili (u smislu da ste prolazili pokraj nje)? *Napišite ime rijeke.*

_____

7. Koliko često, u prosjeku, posjećujete prostor uz rijeku?*Zaokružite slovo uz odgovor koji odgovara Vašoj situaciji.*

a) često, svakodnevno ili nekoliko puta tjedno

b) rijetko, nekoliko puta godišnje

c) vrlo rijetko, jednom u nekoliko godina

d) nikada

8. Koliko često ste posjetili neku rijeku zbog:
Zaokružite odgovor koji odgovara Vašoj situaciji.

šetnje	svakodnevno	nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada
sunčanja	svakodnevno	nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada
sporta	svakodnevno	nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada
pecanja	svakodnevno	Nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada
edukacije	svakodnevno	nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada
posjeta hidrocentrali	svakodnevno	nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada
boravka u vikendici	svakodnevno	nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada
nešto drugo _____	svakodnevno	nekoliko puta tjedno	jednom tjedno	jednom mjesečno	jednom godišnje	rijeđe od jednom godišnje	nikada

9. Što pamtite od zadnjeg posjeta rijeci? *Molim Vas da na crtu da napišete nekoliko pojmova koji opisuju Vaše najjače utiske*

_____

10. Slijedeće tvrdnje ispituju položaj rijeka u okolišu i Vaš stav o tome tko ih treba koristiti. U kojoj mjeri se slažete sa slijedećim tvrdnjama o prostoru uz rijeku? *Zaokružite odgovor koji najbolje odgovara Vašem stajalištu.*

1.	**Riječni krajolik je ljepši od drugih prirodnih krajolika**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
2.	**Rijeke i prostor oko njih najviše trebaju ptice i riječne biljke**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
3.	**Riječni krajolik treba održivo razvijati**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
4.	**Rijeke su previše vrijedne da ih ne bi koristio čovjek**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
5.	**Rijeke treba čuvati više nego druge prirodne okoliše**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti

11. U prostoru uz rijeku mogu se pojaviti različiti sadržaji . Što smatrate važnim za razvoj područja uz neku rijeku npr. Muru ili Dravu? *Zaokružite odgovor koji najbolje odgovara Vašem stajalištu.*

1.	**izgradnja hidrocentrala za proizvodnju električne energije**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
2.	**veća dostupnost rijeci**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
3.	**zaštita autohtone arhitekture**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
4.	**izgradnja vikend naselja**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
5.	**razvoj turističke ponude**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
6.	**zaštita prirodnih staništa ptica**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
7.	**iskapanje šljunka**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
8.	**uzgoj ribe**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
9.	**zaštita od poplave**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
10.	**razvoj poljoprivrednih djelatnosti**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti
11.	**znanstvene spoznaje o prostoru**	uopće nije važno	uglavnom nije važno	niti je važno, niti je nevažno	uglavnom je važno	jako je važno	ne znam, ne želim odgovoriti

12. Prostorno planiranje određuje namjenu nekog prostora na način da uzima u obzir karakteristike tog prostora. Prema vašem osjećaju , koliko su važni slijedeći pojmovi za planiranje namjene u obalnom prostoru rijeke.
Ocijenite od 1 do 5 važnost pojmova, 1 znači nije uopće važno, 2 –uglavnom je važno, 3 – niti je važno,niti je nevažno, 4 – uglavnom je važno i 5 – jako je važno

dostupnost automobilom	**1**	**2**	**3**	**4**	**5**
ljepota krajolika	**1**	**2**	**3**	**4**	**5**
već uređeni okoliš	**1**	**2**	**3**	**4**	**5**
plovnost rijeke	**1**	**2**	**3**	**4**	**5**
netaknuta priroda	**1**	**2**	**3**	**4**	**5**
zaštita od poplave	**1**	**2**	**3**	**4**	**5**

13. Posljednjih godina poplave su učestala pojava. U kojoj mjeri se slažete da bi se trebali braniti od poplava predloženim mjerama? *Zaokružite izjavu koja najviše odražava Vaše stajalište.*

1.	**betonskim obaloutvrdama i nasipima**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
2.	**širenjem obale i prokapanjem rukavaca**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
3.	**izgradnjom jezera i hidrocentrala**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem, niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti
4.	**ne treba ništa raditi**	uopće se ne slažem	uglavnom se ne slažem	niti se slažem , niti se ne slažem	uglavnom se slažem	u potpunosti se slažem	ne znam, ne želim odgovoriti

14. Pokušajte zamisliti navedene pojmove pa ocijenite koliko su oni privlačni u prostoru rijeke?
Zaokružite izjavu koja najviše odražava Vaše stajalište.

1.	**životinje**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
2.	**grmlje**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
3.	**drveće**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
4.	**vikendice**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
5.	**ribiči**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
6.	**kupači**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
7.	**hidrocentrala**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
8.	**riječni mlin**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
9.	**biciklistička staza**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti
10.	**čamci**	uopće nije privlačno	uglavnom nije privlačno	niti je privlačno, niti nije privlačno	uglavnom je privlačno	jako je privlačno	ne znam, ne želim odgovoriti

Molim Vas da odgovorite na slijedeća pitanja o Vašim osnovnim podacima i stavovima o općim životnim vrijednostima. *Upitnik je anoniman.*

Kojeg ste spola? *Zaokružite odgovor* **M Ž**

Starost *Zaokružite odgovor*

a)16-19 **c) 26-30** **e) više od 35**

b)20-25 **d) 30-35**

Mjesto rođenja
Molim Vas napišite naziv mjesta _____

Mjesto Vašeg boravka
Molim Vas napišite naziv mjesta _____

Kako bi opisali kraj u kome živite

a) veliko mjesto
b) predgrađe
c) malo mjesto
d) selo
e) kuća u krajoliku

Državljanstvo *Zaokružite odgovor* ***HU*** ***HR*** ***SLO***

Narodnost *Molim Vas napišite* _____

Vjera *Molim Vas zaokružite ponuđeni odgovor ili napišite odgovor na crtu.*

a) Katolička
b) Pravoslavna
c) Protestantska
d) Islam
e) Židovska
f) ateist
g) neka druga_____

Jeste li ste nekada potpisali peticiju za okoliš? *Zaokružite odgovor* **DA NE**

Imate li zdravstvenih problema zbog zagađenja npr. alergije, astmu i sl.? **DA NE**

Ocijenite slijedeće vrijednosti obzirom na njihovu važnost u Vašem životu.
Zaokružite ocjenu 1 - nimalo važno, 2 – uglavnom nevažno, 3- niti važno niti nevažno, 4 – uglavnom važno, 5 – jako važno

bogatstvo	**1**	**2**	**3**	**4**	**5**
zdravlje	**1**	**2**	**3**	**4**	**5**
informiranost	**1**	**2**	**3**	**4**	**5**
veza s obitelji	**1**	**2**	**3**	**4**	**5**
izgled	**1**	**2**	**3**	**4**	**5**
znanje	**1**	**2**	**3**	**4**	**5**
ugled	**1**	**2**	**3**	**4**	**5**
karijera	**1**	**2**	**3**	**4**	**5**

Hvala!

PRILOGA D

Splošni statistični rezultati izbira najboljših i najslabših scena i Pearson Chi square za pomembnost razlik glede na odabir scen v kategorije najboljša in najslabša med interesnih skupinah

The overall statistical results of the selection of the best and the worst scene and Pearson Chi square on the importance of differences with the options scenes in the category best and worst among stakeholders

	HU		HR		SLO		THE BEST			THE WORST		
	THE BEST	THE WORST	THE BEST	THE WORST	THE BEST	THE WORST	Pearson Chi-Square	df	p	Pearson Chi-Square	df	p
1	7,1%	0,5%	5,6%	1,0%	2,8%	0,3%	7,957	2	0,019	2,067	2	0,356
1a	11,7%	0,2%	7,6%	0,4%	7,0%	0,0%	8,112	2	0,017	1,468	2	0,480
1b	0,2%	3,6%	0,6%	2,9%	0,0%	2,8%	2,593	2	0,273	0,636	2	0,728
1c	0,5%	3,4%	1,9%	3,5%	1,7%	3,6%	3,597	2	0,166	0,034	2	0,983
1d	0,7%	6,6%	0,2%	13,0%	0,3%	7,6%	1,731	2	0,421	15,868	2	0,000
2	2,9%	0,5%	1,0%	1,4%	1,7%	0,6%	4,662	2	0,097	2,958	2	0,228
2a	9,5%	0,5%	4,5%	0,8%	4,8%	0,3%	12,936	2	0,002	1,162	2	0,559
2b	2,2%	0,0%	7,2%	0,2%	4,8%	0,3%	13,476	2	0,001	1,051	2	0,591
2c	1,7%	3,6%	6,4%	0,8%	2,0%	2,8%	19,331	2	0,000	8,82	2	0,012
2d	0,2%	8,3%	0,2%	11,7%	0,0%	8,4%	0,82	2	0,664	5,009	2	0,082
3	5,4%	0,0%	5,6%	0,0%	6,2%	0,0%	0,286	2	0,867			
3a	10,9%	0,5%	5,8%	0,4%	4,5%	0,3%	16,839	2	0,000	0,21	2	0,900
3b	7,5%	0,0%	14,2%	0,0%	7,3%	0,0%	19,486	2	0,000			
3c	1,2%	3,9%	3,3%	2,1%	0,6%	2,2%	10,208	2	0,006	3,455	2	0,178
3d	0,2%	10,9%	0,2%	11,3%	0,3%	9,0%	0,048	2	0,976	1,734	2	0,420
4	0,2%	1,5%	1,2%	1,4%	0,6%	1,1%	3,292	2	0,193	0,213	2	0,899
4a	9,5%	0,2%	3,1%	0,6%	2,2%	0,6%	30,34	2	0,000	0,731	2	0,694
4b	2,7%	0,5%	4,3%	0,4%	3,4%	0,0%	1,953	2	0,377	1,647	2	0,439
4c	0,7%	2,9%	2,5%	2,3%	2,8%	2,5%	5,33	2	0,070	0,409	2	0,815
4d	0,2%	15,8%	0,2%	13,2%	0,0%	8,7%	0,82	2	0,664	12,507	2	0,002
5	0,5%	1,5%	0,4%	1,4%	0,3%	0,6%	0,21	2	0,900	1,751	2	0,417
5a	6,1%	0,7%	5,3%	0,8%	3,4%	0,8%	3,514	2	0,173	0,037	2	0,982
5b	1,5%	0,2%	4,3%	0,2%	2,0%	0,3%	8,447	2	0,015	0,048	2	0,976
5c	1,5%	1,0%	1,0%	1,6%	0,8%	0,0%	0,736	2	0,692	6,002	2	0,050
5d	0,5%	9,0%	0,2%	8,4%	0,6%	4,8%	0,776	2	0,678	6,872	2	0,032
6	1,0%	1,9%	0,2%	3,7%	0,0%	0,6%	5,343	2	0,069	10,003	2	0,007
6a	2,4%	1,0%	1,2%	2,5%	1,4%	0,8%	2,247	2	0,325	5,017	2	0,081
6b	1,2%	2,4%	6,8%	1,0%	2,2%	1,7%	24,305	2	0,000	2,761	2	0,251
6c	1,5%	0,2%	1,9%	0,6%	2,2%	0,0%	0,674	2	0,714	2,593	2	0,273
6d	0,2%	10,0%	0,4%	9,7%	0,0%	5,0%	1,468	2	0,480	9,236	2	0,010
B.O.	8,3%	8,5%	2,7%	2,5%	34,5%	34,5%						

n-number of original scene; A-Restoration Scenario; B – Outdoor recreation and Tourism Scenario; C-Settlement Scenario; D – Energy production Scenario

	Hard		Soft		Art		THE BEST			THE WORST		
	THE BEST	THE WORST	THE BEST	THE WORST	THE BEST	THE WORST	Pearson Chi-Square	df	p	Pearson Chi-Square	df	p
1	4,2%	1,1%	6,1%	0,2%	6,8%	0,0%	8,896	3	0,031	4,189	3	0,242
1a	7,4%	0,3%	11,9%	0,2%	2,6%	0,0%	22,238	3	0,000	0,844	3	0,839
1b	0,0%	3,0%	0,4%	4,0%	1,7%	0,9%	13,783	3	0,003	7,121	3	0,068
1c	2,0%	2,7%	0,8%	5,1%	0,0%	0,9%	5,558	3	0,135	8,704	3	0,034
1d	0,2%	9,4%	0,8%	8,7%	0,0%	10,3%	4,693	3	0,196	0,502	3	0,918
2	1,8%	1,1%	1,8%	1,0%	1,7%	0,0%	1,581	3	0,664	2,887	3	0,409
2a	4,4%	0,5%	8,9%	0,6%	5,1%	0,9%	11,586	3	0,009	1,235	3	0,745
2b	5,2%	0,5%	3,6%	0,0%	7,7%	0,0%	4,243	3	0,236	3,499	3	0,321
2c	4,4%	1,7%	3,0%	2,4%	0,9%	5,1%	5,922	3	0,115	6,054	3	0,109
2d	0,2%	8,0%	0,2%	11,7%	0,0%	9,4%	0,521	3	0,914	5,918	3	0,116
3	4,8%	0,0%	7,1%	0,0%	4,3%	0,0%	6,693	3	0,082			
3a	5,8%	0,6%	8,9%	0,2%	6,0%	0,0%	10,534	3	0,015	1,813	3	0,612
3b	10,5%	0,0%	10,3%	0,0%	8,5%	0,0%	0,553	3	0,907			
3c	2,0%	2,3%	1,6%	3,6%	1,7%	0,9%	0,427	3	0,935	4,532	3	0,209
3d	0,3%	10,8%	0,4%	9,5%	0,0%	12,0%	0,903	3	0,825	1,383	3	0,709
4	1,1%	1,2%	0,4%	1,8%	0,9%	0,0%	3,505	3	0,320	3,273	3	0,351
4a	3,6%	0,8%	6,7%	0,2%	5,1%	0,0%	9,635	3	0,022	3,52	3	0,318
4b	3,0%	0,0%	3,4%	0,8%	6,0%	0,0%	3,949	3	0,267	7,579	3	0,056
4c	2,9%	1,8%	1,2%	3,0%	0,9%	5,1%	6,894	3	0,075	6,919	3	0,075
4d	0,2%	11,8%	0,2%	13,3%	0,0%	14,5%	0,521	3	0,914	6,733	3	0,081
5	0,6%	0,9%	0,0%	2,0%	0,9%	0,0%	3,383	3	0,336	4,554	3	0,208
5a	4,2%	1,1%	5,9%	0,6%	6,0%	0,0%	3,093	3	0,377	3,239	3	0,356
5b	3,2%	0,2%	2,2%	0,4%	1,7%	0,0%	1,706	3	0,636	1,568	3	0,667
5c	1,2%	0,9%	1,2%	1,0%	0,0%	0,9%	1,492	3	0,684	1,528	3	0,676
5d	0,6%	7,4%	0,2%	8,5%	0,0%	5,1%	3,723	3	0,293	4,574	3	0,206
6	0,5%	2,4%	0,2%	2,2%	0,9%	0,9%	1,918	3	0,590	1,282	3	0,733
6a	0,9%	2,1%	2,4%	1,0%	2,6%	0,9%	5,033	3	0,169	2,888	3	0,409
6b	3,5%	1,1%	4,2%	2,6%	1,7%	0,9%	2,446	3	0,485	8,145	3	0,043
6c	2,1%	0,2%	1,6%	0,4%	0,9%	0,9%	4,14	3	0,247	4,576	3	0,206
6d	0,2%	7,0%	0,4%	11,1%	0,0%	5,1%	1,762	3	0,623	12,98	3	0,005
B.O.	19,2%	19,4%	3,8%	3,6%	25,6%	25,6%						

	Ecocentric		Anthropocentric Egoistic		Anthropocentric Altruistic		THE BEST			THE WORST		
	THE BEST	THE WORST	THE BEST	THE WORST	THE BEST	THE WORST	Pearson Chi-	df	p	Pearson Chi-	df	p
1	4,6%	0,5%	5,3%	0,9%	5,8%	0,5%	0,739	2	0,691	0,718	2	0,698
1a	10,6%	0,5%	8,0%	0,3%	7,2%	0,0%	4,08	2	0,130	1,982	2	0,371
1b	0,2%	3,8%	0,3%	3,5%	0,5%	2,8%	0,342	2	0,843	0,833	2	0,659
1c	0,7%	3,6%	2,1%	2,7%	1,4%	3,5%	2,629	2	0,269	0,643	2	0,725
1d	0,7%	7,7%	0,6%	8,8%	0,0%	10,4%	2,969	2	0,227	2,446	2	0,294
2	2,2%	0,7%	1,5%	1,5%	1,4%	0,5%	0,915	2	0,633	2,488	2	0,288
2a	9,1%	0,7%	3,8%	0,3%	5,3%	0,5%	11,381	2	0,003	0,701	2	0,704
2b	2,9%	0,2%	5,3%	0,0%	6,9%	0,2%	8,263	2	0,016	0,804	2	0,669
2c	3,1%	3,4%	2,7%	1,2%	4,4%	2,1%	2,097	2	0,350	4,301	2	0,116
2d	0,2%	7,9%	0,3%	9,1%	0,0%	12,0%	1,183	2	0,554	5,489	2	0,064
3	6,0%	0,0%	6,5%	0,0%	4,4%	0,0%	2,063	2	0,356			
3a	8,2%	0,2%	4,4%	0,6%	8,3%	0,2%	6,304	2	0,043	0,913	2	0,633
3b	9,6%	0,0%	10,0%	0,0%	11,3%	0,0%	0,98	2	0,612			
3c	1,4%	2,9%	1,8%	1,8%	2,1%	3,5%	0,527	2	0,769	2,187	2	0,335
3d	0,5%	11,5%	0,0%	9,7%	0,0%	10,2%	3,717	2	0,156	0,926	2	0,629
4	0,2%	1,4%	0,3%	1,8%	1,6%	1,2%	6,833	2	0,033	0,521	2	0,771
4a	6,2%	0,7%	3,5%	0,3%	4,6%	0,2%	3,363	2	0,186	1,397	2	0,497
4b	3,6%	0,2%	3,5%	0,3%	3,7%	0,5%	0,017	2	0,992	0,342	2	0,843
4c	1,4%	3,4%	2,4%	1,8%	2,5%	2,8%	1,477	2	0,478	1,922	2	0,382
4d	0,5%	14,1%	0,0%	12,7%	0,0%	11,8%	3,717	2	0,156	1,497	2	0,473
5	0,5%	1,4%	0,0%	1,8%	0,5%	0,7%	1,615	2	0,446	1,973	2	0,373
5a	5,8%	1,2%	4,1%	0,9%	5,3%	0,5%	1,194	2	0,551	1,412	2	0,494
5b	2,6%	0,2%	2,4%	0,0%	3,5%	0,2%	1,022	2	0,600	0,804	2	0,669
5c	1,4%	0,5%	1,5%	1,2%	0,5%	1,2%	2,559	2	0,278	1,423	2	0,491
5d	0,2%	8,4%	0,6%	5,3%	0,5%	8,8%	0,581	2	0,748	4,499	2	0,105
6	0,7%	1,0%	0,6%	4,1%	0,0%	2,1%	2,969	2	0,227	8,991	2	0,011
6a	2,2%	1,9%	1,5%	1,5%	1,6%	0,9%	0,61	2	0,737	1,533	2	0,465
6b	2,2%	2,2%	4,7%	0,3%	4,2%	2,1%	4,432	2	0,109	5,308	2	0,070
6c	1,9%	0,2%	2,4%	0,3%	1,4%	0,5%	1,04	2	0,594	0,342	2	0,843
6d	0,5%	8,9%	0,3%	8,0%	0,0%	9,3%	1,982	2	0,371	0,507	2	0,776
B.O.	10,1%	10,6%	19,8%	19,5%	11,1%	11,1%						

	STUDENTS		EXPERTS		THE BEST			THE WORST		
	%									
	THE BEST	THE WORST	THE BEST	THE WORST	THE BEST	THE WORST	Pearson Chi-Square	df	p	Pearson Chi-Square
1	5,2	0,6	9,8	0,7	6,17	1	0,013	0,001	1	0,971
1a	8,7	0,2	3,9	0,0	5,095	1	0,024	0,363	1	0,547
1b	0,3	3,2	2,0	0,7	7,648	1	0,006	3,357	1	0,067
1c	1,3	3,5	0,7	5,2	0,524	1	0,469	1,316	1	0,251
1d	0,4	9,2	0,0	9,8	0,608	1	0,436	0,075	1	0,784
2	1,8	0,9	3,3	0,0	1,574	1	0,210	1,481	1	0,224
2a	6,2	0,6	6,5	0,0	0,028	1	0,866	0,855	1	0,355
2b	4,8	0,2	5,2	0,0	0,062	1	0,803	0,363	1	0,547
2c	3,5	2,3	2,0	3,3	1,122	1	0,290	0,602	1	0,438
2d	0,2	9,6	0,0	8,5	0,242	1	0,623	0,241	1	0,623
3	5,7	0,0	9,2	0,0	3,366	1	0,067			
3a	7,0	0,4	2,6	0,7	4,998	1	0,025	0,223	1	0,637
3b	10,2	0,0	9,8	0,0	0,033	1	0,855			
3c	1,8	2,7	1,3	3,9	0,206	1	0,650	0,828	1	0,363
3d	0,3	10,4	0,7	9,2	0,452	1	0,501	0,29	1	0,590
4	0,8	1,3	2,0	0,7	2,124	1	0,145	0,524	1	0,469
4a	5,0	0,5	8,5	0,0	3,829	1	0,050	0,731	1	0,393
4b	3,5	0,3	2,0	0,0	1,032	1	0,310	0,485	1	0,486
4c	2,0	2,6	0,7	4,6	1,478	1	0,224	2,085	1	0,149
4d	0,2	12,7	0,0	7,2	0,242	1	0,623	5,303	1	0,021
5	0,4	1,3	0,7	1,3	0,223	1	0,637	0,003	1	0,958
5a	5,0	0,8	3,3	0,0	1,026	1	0,311	1,229	1	0,268
5b	2,7	0,2	3,3	0,0	0,192	1	0,661	0,363	1	0,547
5c	1,1	0,9	1,3	0,0	0,054	1	0,817	1,481	1	0,224
5d	0,4	7,6	1,3	11,1	2,358	1	0,125	2,729	1	0,099
6	0,4	2,2	0,0	2,6	0,608	1	0,436	0,111	1	0,739
6a	1,7	1,6	1,3	1,3	0,105	1	0,746	0,065	1	0,798
6b	3,6	1,7	2,6	0,0	0,437	1	0,509	2,643	1	0,104
6c	1,8	0,3	0,0	1,3	2,907	1	0,088	3,237	1	0,072
6d	0,2	8,4	0,7	12,4	0,856	1	0,355	3,374	1	0,066
B.O.	13,8	13,8	15,7	15,7						

PRILOGA E

Pomembnost razlik glede na odnos človek, okolje, kultura in tehnologija za različne interesne skupine

Importance of differences with respect to the man, the environment, Culturee and technology for a variety of stakeholders

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and Experts**	
	F	p	F	p	F	p	F	p
Čovjek je apsolutni gospodar prirode u kojoj živi i prema njoj se smije odnositi prema vlastitoj volji	33,534	,000	,815	,486	25,119	,000	1,083	,298
Razvoj tehničkih rješenja donosi čovječanstvu nove blagodati i uživanja	7,167	,001	4,635	,003	47,876	,000	,603	,438
Ako je neki krajolik očuvan i izvoran, i kultura stanovnika tog kraja je naprednija	7,656	,001	4,112	,007	61,115	,000	8,787	,003
Rijeke fizički i kulturno povezuju prostore kroz koje prolaze	1,413	,245	2,485	,060	55,123	,000	4,203	,041
Rijeka treba služiti čovjeku samo za odmor, rekreaciju i uživanje u lijepom pogledu	42,660	,000	1,805	,145	82,346	,000	4,931	,027
Danas čovjek potpuno kontrolira i najsuvremeniju tehnologiju i time sprečava moguće nesreće	6,200	,002	2,328	,074	9,742	,000	1,165	,281
Očuvanje prirode ima prednost pred svim drugim zadaćama društva	4,447	,012	9,837	,000	75,783	,000	24,920	,000
Gradovi kroz koje teče rijeka ljepši su od gradova koji nemaju rijeku	14,793	,000	2,911	,034	17,092	,000	4,364	,037

PRILOGA F

Splošni statistični podatki o reko kot ekološki in estetski videz pokrajine za različne interesne skupine

General statistical results for the river as an ecological and aesthetic appearance of the landscape for a variety of stakeholders

	Mean score	
stakeholders	**visual**	**ecological**
	p.10.1	p.10.5
HR	3,29	3,23
HU	3,15	3,74
SLO	3,36	3,37
HARD	3,34	3,46
SOFT	3,26	3,39
ART	2,92	3,50
ECOCENTRIC	3,25	3,65
ANTHROPO-E	3,20	3,18
ANTRHROPO-A	3,36	3,44
STUDENTS	3,27	3,44
EXPERTS	3,43	3,27

Pomembnost razlik glede na reko kot ekološki in estetski videz za različne interesne skupine

Importance of differences for the river as an ecological and aesthetic appearance of the landscape for a variety of stakeholders

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and experts**	
	F	**p**	**F**	**p**	**F**	**p**	**F**	**p**
visual	1,730	,179	2,812	0,039	1,097	,335	1,475	,225
ecological	11,879	,000	0,637	0,591	7,661	,001	1,314	,252

PRILOGA G

Splošni statistični podatki o mnenju študentov o uporabniki obrečnog prostor in trajnosti
General statistical results for the views of students on actors along the river and sustainability

	Mean score		
stakeholders	**Environmetal Needs**	**Sustainability**	**Human Needs**
HR	3,91	4,15	3,60
HU	3,45	4,36	3,67
SLO	4,02	3,80	3,52
HARD	3,80	4,05	3,72
SOFT	3,75	4,26	3,45
ART	3,84	3,97	3,66
ECOCENTRIC	3,64	4,25	3,69
ANTHROPO-E	3,57	4,11	3,72
ANTRHROPO-A	4,06	4,06	3,44
STUDENTS	3,79	4,13	3,61
EXPERTS	3,29	4,55	3,82

Pomembnost razlik glede na mnenja študentov o uporabniki obrečnog prostor in trajnosti
Importance of differences for the views of students on actors along the river and sustainability

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and experts**	
	F	**p**	**F**	**p**	**F**	**p**	**F**	**p**
Environmetal Needs	15,608	,000	4,275	0,005	11,624	,000	12,417	,000
Sustainability	15,227	,000	7,179	0,000	2,026	,133	13,031	,000
Human Needs	,821	,441	3,716	0,012	3,655	,027	2,418	,121

PRILOGA H

Splošni statistični podatki o mnenju interesnih skupinah o pomembnosti navajanih temah za razvoj obrečne krajin
General statistical results for the views of different stakeholders relied on the importance of issues for the development of riverside landscapes

	Mean score										
stakeholders	**hydropower for electricity generation**	**greater access to the river**	**protection of indigenous architecture**	**construction of a cottage settlements**	**development of tourism**	**protection of natural habitats**	**excavation of gravel**	**fish farming**	**flood protection**	**agriCultureal development**	**scientific knowledge about the area**
HR	3,15	3,82	4,05	3,01	3,84	4,42	2,71	3,93	4,55	3,78	3,84
HU	3,95	3,73	3,54	2,59	3,37	4,71	3,13	4,17	4,82	4,08	3,86
SLO	3,31	3,50	3,89	2,56	3,43	4,23	2,51	3,17	4,23	3,57	3,91
HARD	3,48	3,73	3,87	2,90	3,68	4,29	2,73	3,64	4,49	3,74	3,90
SOFT	3,53	3,73	3,81	2,64	3,50	4,69	2,87	4,00	4,65	3,93	3,80
ART	3,12	3,42	4,00	2,33	3,22	4,50	2,73	3,69	4,49	3,83	4,03
ECOCENTRIC	3,61	3,74	3,85	2,69	3,48	4,64	2,91	3,88	4,69	4,01	3,97
ANTHROPO-E	3,74	3,67	3,62	2,83	3,59	4,21	2,82	3,77	4,55	3,76	3,69
ANTRHROPO-A	3,04	3,73	4,06	2,73	3,63	4,49	2,58	3,71	4,43	3,69	3,94
STUDENTS	3,47	3,71	3,86	2,75	3,57	4,47	2,78	3,79	4,55	3,82	3,87
EXPERTS	3,56	3,82	4,11	2,20	3,84	4,41	2,88	3,49	4,68	3,73	4,06

Primerjava povprečnih rezultatov interenih skupin o pomembnosti navajanih temah za razvoj obrečne krajin
Comparison of mean scores of different stakeholders relied on the importance of issues for the development of riverside landscapes

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and experts**	
	F	**p**	**F**	**p**	**F**	**p**	**F**	**p**
hydropower for electricity generation	23,225	,000	1,438	0,231	16,655	,000	,311	,577
greater access to the river	5,212	,006	1,739	0,158	,293	,746	,885	,347
protection of indigenous architecture	12,358	,000	1,545	0,202	8,138	,000	3,362	,067
construction of a cottage settlements	9,813	,000	9,069	0,000	,613	,542	13,330	,000
development of tourism	9,744	,000	3,928	0,009	,857	,425	3,485	,063
protection of natural habitats	14,593	,000	10,055	0,000	10,933	,000	,252	,616
excavation of gravel	12,388	,000	0,758	0,518	3,880	,022	,367	,545
fish farming	41,696	,000	5,583	0,001	,957	,385	4,033	,045
flood protection	30,735	,000	2,681	0,046	6,334	,002	1,862	,173
agriCultureal development	11,768	,000	1,533	0,205	5,131	,006	,454	,501
scientific knowledge about the area	,233	,793	1,426	0,234	3,293	,038		

PRILOGA I

Splošni statistični podatki mnenja interesnih skupin ukrepov za varovanje pred poplavami
The general statistical results for the stakeholders' opinion on the of flood protection measures

	Mean score			
stakeholders	**bank revetment and concrete dams**	**expansion of banks and branches**	**construction of hydroelectric dams and lakes**	**should not do anything**
HR	3,16	3,78	3,31	1,71
HU	3,77	4,32	4,02	1,20
SLO	3,03	3,21	2,81	1,88
HARD	3,41	3,76	3,35	1,63
SOFT	3,36	3,91	3,62	1,40
ART	2,74	3,53	2,85	2,03
ECOCENTRIC	3,48	3,98	3,63	1,35
ANTHROPO-E	3,53	3,83	3,67	1,55
ANTRHROPO-A	3,01	3,58	2,95	1,78
STUDENTS	3,33	3,80	3,41	1,58
EXPERTS	2,86	3,37	3,12	1,68

Primerjava povprečnih rezultatov mnenja interenih skupin o ukrepov za varovanje pred poplavami
Comparison of mean scores of different stakeholders' opinion on the of flood protection measures

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and experts**	
	F	**p**	**F**	**p**	**F**	**p**	**F**	**p**
bank revetment and concrete dams	16,782	,000	5,820	0,001	8,197	,000	7,306	,007
expansion of banks and branches	47,199	,000	4,090	0,007	5,659	,004	7,777	,006
construction of hydroelectric dams and lakes	40,607	,000	5,612	0,001	16,724	,000	2,727	,099
should not do anything	18,405	,000	4,435	0,004	6,976	,001	,496	,482

PRILOGA J

Delež odgovorov interesnih skupin o frekventnosti obiska obrečne krajin
The response of stakeholders on the frequency of visit to the riverside landscape

	%			
stakeholders				
	frequently, daily or several times a week	**rarely, several times a year**	**very rarely, once every few years**	**never**
HR	19,7	65,0	13,1	1,5
HU	72,8	23,5	2,5	
SLO	57,1	37,0	4,2	0,8
HARD	56,4	35,5	5,9	0,9
SOFT	42,4	47,9	7,9	0,6
ART	53,8	41,0	2,6	
ECOCENTRIC	43,2	46,8	8,6	0,7
ANTHROPO-E	42,5	49,6	5,3	1,8
ANTRHROPO-A	69,4	24,3	4,9	
STUDENTS	50,7	40,8	6,4	0,7
EXPERTS	66,7	27,5	5,9	

Primerjava značilnosti razlik v frekventnosti obiska obrečne krajin interesnih skupin
Comparison of response on the frequency of visit to the riverside landscape of stakeholders

Culture/nation			**Disciplines**			**Environmetal orientations**			**Students and experts**		
Pearson Chi-Square	**df**	**p**	**Pearson Chi-Square**	**df**	**p**	**Pearson Chi-Square**	**df**	**p**	**Pearson Chi-Square**	**df**	**p**
91,114	8	,000	15,152	12	,233	15,152	8	,000	5,373	4	,251

PRILOGA K

Delež odgovorov interesnih skupin o vrsti dejavnosti ob obisku obrečne krajin jednom mesečno in pogostje

The response of stakeholders on the type of activity during the visit in the river area, monthly and more often

	%						
stakeholders	**walking**	**sun**	**sports**	**fishing**	**education**	**visits to power stations**	**stay in the cottage**
HR	92,0	29,6	51,2	9,3	8,0	0,6	24,1
HU	42,3	17,5	19,7	13,1	5,1	0,7	8,0
SLO	80,7	25,2	54,6	8,4	10,1	0,8	5,9
HARD	75,5	26,4	45,5	11,8	7,3	0,9	14,1
SOFT	75,5	26,4	45,5	11,8	7,3	0,9	
ART	71,8	12,8	38,5	2,6	12,	0,0	7,7
ECOCENTRIC	64,0	23,7	36,7	11,5	7,2	0,7	11,5
ANTHROPO-E	63,7	24,8	38,1	11,5	8,0	1,8	14,2
ANTRHROPO-A	88,9	27,1	52,8	7,6	8,3	0,0	18,1
STUDENTS	72,4	24,3	41,7	10,1	7,5	0,7	13,7
EXPERTS	84,3	19,6	29,4	5,9	19,6	2,0	15,7

Primerjava značilnosti razlik o vrsti dejavnosti ob obisku obrečne krajin

Comparison of response of stakeholders on the type of activity during the visit in the river area

	Culture/nation			**Disciplines**			**Environmetal orientations**			**Students and experts**		
	Pearson Chi-Square	**df**	**p**	**Pearson Chi-Square**	**df**	**p**	**Pearson Chi-Square**	**df**	**p**	**Pearson Chi-Square**	**df**	**p**
walking	140,587	12	,000	17,324[a]	18	,501	41,305[a]	12	,000	8,127	6	,229
sun	36,811	14	,001	27,137[a]	18	,076	18,233[a]	12	,109	7,424	6	,283
sports	60,970	14	,000	28,342[a]	18	,057	15,922[a]	12	,195	6,297	6	,391
fishing	19,209	12	,084	21,453[a]	18	,257	11,865[a]	12	,457	5,963	6	,427
education	31,523	14	,005	43,588[a]	18	,001	13,356[a]	12	,344	20,357	6	,002
visits to power stations	20,613	8	,008	22,501[a]	12	,032	10,631[a]	8	,223	13,111	4	,011
stay in the cottage	72,853	14	,000	5,850[a]	18	,997	24,089[a]	12	,020	1,948	6	,924

PRILOGA L

Delež odgovorov interesnih skupin o memoriji poslednjeg obiska krajini ob reko
The response rate of stakeholders on the memory of the visit at the river area

	%				
stakeholders					
	water	**nature**	**activity**	**features**	**emotion**
HR	31,169	39,506	58,772	41,304	41,096
HU	27,272	27,161	23,684	23,913	31,507
SLO	41,559	33,333	17,544	34,783	27,397
HARD	14,47	27,30	16,45	19,08	22,70
SOFT	10,04	28,87	25,10	11,72	24,27
ART	15,79	24,56	12,28	12,28	35,09
ECOCENTRIC	13,54	29,17	17,71	14,58	25,00
ANTHROPO-E	17,24	27,59	18,62	20,00	16,55
ANTRHROPO-A	10,09	25,88	20,61	14,04	29,39
STUDENTS	12,83	27,67	19,50	15,50	24,50
EXPERTS	13,48	20,22	17,98	14,61	33,71

Primerjava značilnosti razlik interesnih skupin o memoriji poslednjeg obiska krajini ob reko
Comparison of response of stakeholders on the memory of the visit at the river area

	Culture/nation			**Disciplines**			**Environmetal orientations**			**Students and experts**		
	Pearson Chi-Square	**df**	**p**	**Pearson Chi-Square**	**df**	**p**	**Pearson Chi-Square**	**df**	**p**	**Pearson Chi-Square**	**df**	**p**
water	7,954	2	,019	3,386	3	,336	1,577	2	,455	,862	1	,353
nature	4,781	2	,092	1,142	3	,767	0,944	2	,624	,285	1	,593
activity	26,728	2	,000	11,001	3	,012	3,295	2	,193	,322	1	,570
features	4,676	2	,097	5,525	3	,137	1,098	2	,577	,332	1	,564
emotion	,518	2	,772	17,01	3	,001	17,805	2	,000	11,361	1	,001

PRILOGA M

Primerjava povprečnih rezultatov interesnih skupin o organi za načrtovanje in upravljanje območja reke
Comparison of mean scores of stakeholders on authority on spatial planning and managing river area

	Mean score						
stakeholders	**civil service at nation level**	**civil service at regional level**	**civil service at local level**	**environmental NGOs**	**scientists and experts**	**population along the river**	**landowners along the river**
HR	2,38	2,76	3,28	3,95	4,04	3,86	3,28
HU	2,58	3,04	3,44	4,13	4,20	3,26	3,10
SLO	2,36	3,02	3,54	4,07	4,16	4,23	3,48
HARD	2,40	2,93	3,40	3,90	4,09	3,90	3,39
SOFT	2,50	2,91	3,42	4,25	4,20	3,57	3,20
ART	2,49	3,03	3,44	4,06	4,08	3,81	2,94
ECOCENTRIC	2,55	3,10	3,53	4,07	4,14	3,63	3,27
ANTHROPO-E	2,53	3,03	3,41	3,89	4,15	3,58	3,14
ANTRHROPO-A	2,28	2,67	3,24	4,14	4,07	4,05	3,43
STUDENTS	2,45	2,93	3,41	4,05	4,13	3,76	3,28
EXPERTS	2,54	3,30	3,56	3,27	4,20	3,51	2,94

Primerjava značilnosti razlik rezultatov interesnih skupin o organi za načrtovanje in upravljanje območja reke
Comparison of response of stakeholders on authority on spatial planning and managing river area

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and experts**	
	F	**p**	**F**	**p**	**F**	**p**	**F**	**p**
civil service at nation level	1,939	,145	,377	,769	2,810	,061	,359	,549
civil service at regional level	3,495	,031	2,024	,110	7,315	,001	5,693	,017
civil service at local level	2,109	,123	,332	,802	2,662	,071	,942	,332
environmental NGOs	1,480	,229	14,811	,000	2,468	,086	30,686	,000
scientists and experts	1,439	,238	,689	,559	,309	,735	,253	,615
population along the river	34,911	,000	4,234	,006	9,013	,000	2,875	,091
landowners along the river	3,766	,024	3,423	,017	2,053	,130	4,135	,043

PRILOGA N

Splošni statistični rezultati mnenja interesnih skupin o mednarodnih sporazumov in odgovornosti glede na bogatost
The general statistical results of the stakeholders' opinion on internation agreements and obligations with respect to the economy

	Mean score	
stakeholders	**internation management of border rivers**	**responsibility and economic status**
HR	4,00	3,09
HU	4,29	3,41
SLO	4,08	2,68
HARD	4,09	3,06
SOFT	4,18	3,08
ART	4,08	3,26
ECOCENTRIC	4,24	3,22
ANTHROPO-E	4,04	3,04
ANTRHROPO-A	4,09	2,97
STUDENTS	4,13	3,09
EXPERTS	4,28	2,67

Primerjava značilnosti razlik mnenja interesnih skupin o mednarodnih sporazumov in odgovornosti glede na bogatost
Comparison of response of the stakeholders' opinion on internation agreements and obligations with respect to the economy

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and experts**	
	F	**p**	**F**	**p**	**F**	**p**	**F**	**p**
internation management of border rivers	4,042	,018	,767	,513	1,582	,207	1,313	,252
responsibility and economic status	8,645	,000	1,545	,202	1,090	,337	4,006	,046

PRILOGA O

Primerjava povprečnih rezultatov interesnih skupin na temo kojih se treba urejati mednarodnim sporazumom
Comparison of mean scores of stakeholders on the topicsto that need to be regulated internation agreement

	Mean score						
stakeholders							
	hydropower plants	**bioreserves**	**environmental problems**	**waterways**	**tourism zone**	**nature parks**	**residence zone**
HR	3,61	3,96	4,40	4,22	3,61	4,05	3,35
HU	4,03	4,10	4,39	3,82	3,87	4,49	3,57
SLO	3,64	4,05	4,47	4,06	3,36	3,98	3,07
HARD	3,80	4,00	4,33	4,07	3,50	4,01	3,21
SOFT	3,78	4,04	4,50	4,03	3,81	4,35	3,53
ART	3,54	4,22	4,58	3,95	3,55	4,45	3,44
ECOCENTRIC	3,98	4,16	4,38	3,94	3,69	4,27	3,41
ANTHROPO-E	3,78	3,81	4,39	4,01	3,54	3,99	3,19
ANTRHROPO-A	3,53	4,09	4,48	4,15	3,60	4,23	3,39
STUDENTS	3,77	4,04	4,42	4,04	3,63	4,18	3,36
EXPERTS	4,06	4,10	4,42	4,49	3,46	3,92	2,63

Primerjava značilnosti razlik mnenja interesnih skupin na temo kojih se treba urejati mednarodnim sporazumom
Comparison of response of the stakeholders' opinion on the topicsto that need to be regulated internation agreement

	Culture/nation		**Disciplines**		**Environmetal orientations**		**Students and experts**	
	F	**p**	**F**	**p**	**F**	**p**	**F**	**p**
hydropower plants	7,566	,001	1,989	,115	6,722	,001	3,834	,051
bioreserves	,932	,395	,762	,516	5,630	,004	,244	,621
environmental problems	,452	,637	2,326	,074	,743	,477	,000	,994
waterways	7,917	,000	4,270	,005	2,001	,137	12,192	,001
tourism zone	7,467	,001	3,003	,030	,583	,559	1,086	,298
nature parks	11,294	,000	5,895	,001	2,890	,057	3,193	,075
residence zone	6,085	,002	8,486	,000	1,426	,242	17,906	,000