

THE RELIABILITY OF INFORMATION IN ENVIRONMENTAL IMPACT STUDIES

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The success of public participation in environmental impact assessment procedures is defined as the extent to which one of the social objectives is achieved – namely, the objective of building trust in the system institutions. The importance of public participation in the environmental impact assessment procedures has been constantly growing. Qualitative research on the target sample was conducted using in-depth interviews and participatory observation. Most of the respondents from the *public sector* and the *business sector* believe that the measurement information from the authorised institutions is reliable, and if it is not, then the issue at hand is a criminal offence. However, most of the representatives of the civil sector do not support this view, but doubt the reliability of the information and are not sure whether they can believe the authorised institutions that conduct the measurement.

Key words: public information, reliability of information, authorised institution.

Pouzdanost podataka u studijama utjecaja na okoliš. Uspjeh sudjelovanja javnosti u postupcima procjene utjecaja na okoliš definira se kao mjera u kojoj je kao jedan od društvenih ciljeva ostvaren onaj koji ostvaruje izgradnju povjerenja u institucije sustava. Danas značaj sudjelovanja javnosti u postupcima procjene utjecaja na okoliš neprekidno raste. Kvalitativno istraživanje na ciljanom uzorku provedeno je metodom dubinskog intervjua i sudjelujućeg promatranja. Većina ispitanika *javnog* i *gospodarskog sektora* smatra da su podatci mjerenja ovlaštenih institucija pouzdani te ako nisu, onda je riječ o kaznenom djelu. Međutim, većina predstavnika *civilnog sektora* ne podržava ovakav stav, već sumnja u pouzdanost podataka i nije sigurna može li vjerovati ovlaštenim institucijama koje provode mjerenja.

Cljučne riječi: informiranje i sudjelovanje javnosti, pouzdanost podataka, ovlaštene institucije.

INTRODUCTION

Nowadays, awareness and public participation in decision-making processes through the evaluation of studies on the environmental impact assessment for a planned project indicate a high degree of environmental democracy, which is specifically regulated following the adoption the Aarhus Convention, while the importance of public participation in the procedures of environmental impact assessment is constantly growing. The main

objectives of developing effective strategies for involving the public are better understanding, better communication, strengthening the ability/skills needed to apply the appropriate forms of participation/involvement with respect to the purpose of the process, and strengthening the relationship and cooperation between the stakeholders, with the aim of the improved planning and realisation of (local) sustainable

development [1]. In time, we have come to the conclusion that state administrative bodies are not sources of objective identification and decision making in the best interest of the public, but are rather arbitrators between the various interests that exist, and the practice has shown that economic and political interests are always stronger than the declarative and non-binding right to a healthy environment. This is why public participation is a challenge for the traditional management/decision-making model implemented by experts or public administration bodies. It not only serves as a means to control public administration, but as a way to, above all, determine what the public interest is in the first place [2]. Introducing new legal opportunities for public participation is not sufficient in itself – the public must first learn what it has available and how to use it in order for the process of social assessment to be carried out within or prior to the process of environmental impact assessment. In order to guarantee the public's legal right to having their opinion considered in the process of assessing the

acceptability of a procedure for the environment, the public has to be made aware and properly informed about the relevant issues and suggested proposals. Public confidence in the institutions authorised by the competent state bodies to perform these tasks is an important link on the path to consensus and the mutual agreement of all stakeholders. The aim of this study is to determine the level of awareness of the target groups and sectors on the reliability of measurements and data from authorised institutions, which are used in the preparation of environmental impact studies.

Based on the research objectives set, the general hypothesis (H_G) reads as follows:

There are significant differences between the entities of target and sector groups in terms of the awareness and attitudes among the interested public and the general public on the reliability of measurements and data from authorised institutions, which are used in the preparation of environmental impact studies.

MATERIALS AND METHODS

The qualitative study was carried out using a purposive sample and the methods of in-depth interviews and participant observation. The method of grounded theory was used in the analysis of the empirical material. Three basic types of coding were applied: open or initial coding, axial coding, and selective coding. The initial coding included the first rearranging and sorting of the data, noting similarities and forming response groups. The final analysis and categorisation of the key concepts created the conceptual matrix with qualitative empirical material in the integrated theoretical framework [3-4]. Inductive and deductive methods were used

on the data, as well as the method of analysis and synthesis, the comparison method, the classification method, and the descriptive method [5]. The study was conducted in 2014. Respondent selection was done according to previously set criteria: a target sample of participants in the empirical study who are involved, either professionally or voluntarily, in procedures relevant to the research [6]. The sample was defined as 100 entities, 46 males and 54 females. The average respondent age was 52.1 years. Respondents were divided into 10 subsamples (target groups), which were qualitatively defined as 10 entities:

1. *STUDY MAKERS* – persons authorised by the Ministry of the Environment and Nature Protection;
2. *DEVELOPERS* – investors;
3. *MINISTRY OF THE ENVIRONMENT / COMMITTEE* – representatives of the governing body conducting the process, and members of committees for study evaluation;
4. *CITIES* – representatives of the employees of the city administration for environmental protection responsible for conducting public debates, and spatial planning representatives;
5. *COUNTIES* – representatives of the employees of the county administration for environmental protection responsible for conducting public debates, and spatial planning representatives;
6. *ASSOCIATIONS* – representatives of non-governmental environmental associations;
7. *CIVIL INITIATIVES* – representatives of NGOs and civil society who are involved in the process, but are not environmentally oriented;
8. *ECONOMIC ASSOCIATIONS* – representatives of the Croatian Employers' Association, the Croatian Chamber of Commerce, and other economic interest associations;
9. *POLITICAL PARTIES* – representatives of political structures that are included in the process;
10. *SCIENTISTS/JOURNALISTS* – representatives of academic institutions and journalists who are involved in the process. Three new qualitatively-defined control groups (clusters) were created based on the above subsamples:
 1. *PUBLIC SECTOR* – 40 respondents from the target groups: MIN. OF ENVIRONMENT/COMMITTEE, CITY, COUNTY, SCIENTISTS/JOURNALISTS;
 2. *CIVIL SECTOR* – 30 respondents from the target groups: ASSOCIATIONS, CIVIC INITIATIVES, POLITICAL PARTIES;
 3. *ECONOMIC SECTOR* – 30 respondents from the target groups: *STUDY MAKERS, DEVELOPERS, ECONOMIC ASSOCIATIONS.*

The research material consisted of two dependent (grouping) variables according to the criteria of the target group and the control group, and one independent variable. The respondents were asked to state their opinion on whether there were differences between the public and the interested public in environmental impact assessment procedures. The responses related to the two independent variables were coded with a measuring scale from 1 to 3. We calculated the following descriptive parameters: the frequency and cumulative relative values of the responses in the whole sample, and in the predetermined focus and control groups. Processing was carried out using the Statistica Ver.11.00 software suite [7].

THEORY

McKie and Munshi point out that public relations should play a key role in helping companies fulfil their social responsibility to the communities in which they operate when they are not well equipped to respond to requests for an orientation towards learning, for experimenting, discovering, accepting

uncertainty and accepting ambiguity. They offer a wide range of discussion on three topics that are crucial for public relations: ecology, equality and entrepreneurship [8]. Grunig and Hunt identified four models for communicating public relations [9]: *the news agencies and publicity model* - this model uses propaganda and advertising, as

well as one-way communication requiring the attention of the media; *the public information model* - using the media as a communication channel to transmit what constitutes generally correct information, while avoiding the transfer of negative information. Like the previous one, this is a one-way communication model without feedback through which the sender (organisation) gives information about themselves; *the bidirectional asymmetric model* - this model is the first to assign significance to public opinion and various methods of measuring it. It is two-way due to feedback and the adjustment of public relations to responses from message recipients, and it is asymmetrical due to the subordinate role of the public and because it is being manipulated in a certain way; *the two-way symmetrical model* - includes modern public relations. Unlike the previous model, this one highlights

feedback. Public relations are vehicles for communication between an organisation and its public, aiming to achieve a full understanding of communication. Habermas says that the ideal of the public sphere - free and open to the rational discussion of equal stakeholders - should be a feature of modern democratic states. However, as stated, the commercialisation of the public sphere has distorted communication up to the point where discussions are stimulated by particular interests rather than open, rational arguments - to the detriment of democracy [8]. One of Habermas' best-known ideas is communicative action, where people with a stake in society strive for mutual agreement and the coordination of action by reasonable arguments, consensus and cooperation, rather than by applying strategic actions in the strict framework of achieving their own targets [10].

RESULTS AND DISCUSSION

The quantitative processing of the variable entity matrix was based on the given responses qualitatively defined by the question:

In your opinion, are the measurements and data from authorised institutions used in the preparation of studies reliable?

Respondents expressed their position on whether the measurements and data from authorised institutions used in the preparation of studies were reliable.

The answers given were defined in three levels:

The first group includes negative responses and represents those entities who responded:

No, because it is stipulated that the tests/measurements must be entrusted to accredited and authorised legal entities. Insight into their reports shows that accreditation and authorisation are not

sufficient because there are no checks of report quality – that is, inspection reports only determine whether the measurement/testing has been performed but do not indicate the quality of the data.

Quantitatively, these responses were coded as zero (0) for later statistical processing.

Another group answered that they do not know, are not sure, take no position and hold the following opinion:

Yes and no; there are differences. It is hard to decide and one should refrain from generalisation, but there are authorised institutions that do not perform certain specific measurements during the preparation of studies, but use data prepared for similar locations. A specific accreditation procedure should be defined for authorised persons, which would certainly increase the level of competence, confidence and accuracy of measurements.

Quantitatively, these responses were coded as one (1) for later statistical processing.

The third group of respondents included affirmative responses and expressed the following attitude:

In an organised and orderly country, the data from authorised institutions should be reliable. Given the fact that we are a small country and institutions and experts are usually familiar with each other, the reliability of data may be revealed using information from competing institutions. We should consider them reliable until

proven to the contrary, in which case the issue at hand is a criminal offence.

Quantitatively, these affirmative responses were coded as two (2) for later statistical processing.

The name of the response to the questions defined in the statistical process was done using the codenamed variable *measurements and data from authorised institutions*. Table 1 shows the frequency of all instances and the variable set *measurements and data from authorised institutions*, N=100

Table 1. Absolute and cumulative relative frequencies of the variable measurements and data from authorised institutions, N=100

Tablica 1. Apsolutne i kumulativne relativne frekvencije mjerenja varijabli i podataka ovlaštenih institucija, N=100

Responses	Frequency	Cumulative relative frequency
0	26	26.00
1	23	49.00
2	51	100.00

Legend: 0 – no; 1 – I don't know, I'm not sure; 2 – yes.

The analysis of the frequency of all respondents and the variable codenamed *measurements and data from authorised institutions* gives a relative value of 26% of respondents who believe that the measurements and data from authorised institutions used in the preparation of studies are not reliable. They point out that inspection reports only determine whether the measurement/testing has been perfor-

med, but do not indicate the quality of the data. On the other hand, 51% of the subjects involved in this study trust the reliability of data until proven to the contrary, in which case the issue at hand is a criminal offence. Table 2 shows the frequency of the variable *measurements and data from authorised institutions* in 10 predefined target groups.

Table 2. Frequencies of the variable measurements and data from authorised institutions, N=100
Tablica 2. Frekvencije mjerenja varijabli i podataka ovlaštenih institucija, N=100

Responses	SM	DE	ME	CI	CO	AS	CI	EA	PP	S/J	Total
0	0	2	3	1	4	2	5	1	4	4	26
1	4	1	0	0	0	8	5	0	2	3	23
2	6	7	7	9	6	0	0	9	4	3	51

Legend: 0 – no; 1 – I don't know, I'm not sure; 2 – yes.

SM – STUDY MAKERS – persons authorised by the Ministry of the Environment and Nature Protection;

DE – DEVELOPERS – investors;

ME – MINISTRY OF THE ENVIRONMENT / COMMITTEE – representatives of the governing body conducting the process, and members of committees for study evaluation;

CI – CITIES – representatives of the employees of the city administration for environmental protection responsible for conducting public debates and spatial planning representatives;

CO – COUNTIES – representatives of the employees of the county administration for environmental protection responsible for conducting public debates and spatial planning representatives;

A – ASSOCIATIONS – representatives of non-governmental environmental associations;

CI – CIVIL INITIATIVES – representatives of NGOs and civil society who are involved in the process, but are not environmentally oriented;

EA – ECONOMIC ASSOCIATIONS – representatives of the Croatian Employers' Association, the Croatian Chamber of Commerce, and other economic interest associations;

PS – POLITICAL PARTIES – representatives of political structures that are included in the process;

S/J – SCIENTISTS/JOURNALISTS – representatives of academic institutions and journalists who are involved in the process.

Table 2 shows that the representatives of all the target groups still believe in the reliability of data from authorised institutions. The least sure are the representatives of non-governmental environmental organisations – ASSOCIATIONS and representatives of the target groups CIVIL INITIATIVES, POLITICAL PARTIES AND SCIENTISTS/JOURNALISTS.

Quantitative analysis of the frequency of the variable *measurements and data from authorised institutions* according to *sector group* is presented in Table 3.

Table 3. Frequencies of the variable measurements and data from authorised institutions, N=100
Tablica 3. Frekvencije mjerenja varijabli i podataka ovlaštenih institucija, N=100

Responses	PUBLIC SECTOR	CIVIL SECTOR	ECONOMIC SECTOR	Total
0	12	11	3	26
1	3	15	5	23
2	25	4	22	51
total	40	30	30	100

Legend: 0 – no; 1 – I don't know, I'm not sure; 2 – yes.

Public sector – MIN. OF THE ENVIRONMENT / COMMITTEE, CITY, COUNTY, SCIENTISTS/JOURNALISTS;
 Civil sector – ASSOCIATIONS, CIVIC INITIATIVES, POLITICAL PARTIES;
 Economic sector – STUDY MAKERS, DEVELOPERS, ECONOMIC ASSOCIATIONS.

A total of 63% of representatives of the public sector or 25 subjects and 73% of the economic sector or 22 subjects, consider that the measurement data from authorised institutions are reliable and if not, the issue at hand is a criminal offence. However, 50% of the representatives of the civil sector do not support this view, having doubts about the reliability of data and not being sure whether to believe the authorised institutions for measurement.

According to the model set by Grunig and Hunt^[9], the process of information and public participation in making decisions on the evaluation of environmental impact studies is dominated by the *model of public information* – a one-way communication model without feedback through which a competent administrative body simply informs the

public, while the *two-way asymmetrical model* only appears during the thirty-day public debate. It is two-way because of feedback and the adjustment of public relations to the responses from message recipients, and it is asymmetrical due to the subordinate role of the public, and because it is being manipulated in a certain way. The public participates in the procedure by submitting remarks requiring answers, which is far from the *two-way symmetrical model* - which, in contrast to the previous model, emphasises feedback aimed at achieving a full understanding of the decision-making process based on dialogue and consensus.

Based on the results of empirical research, the general hypothesis (H_G), which reads as follows:

There are significant differences between the entities of target and sector groups in terms of the awareness and attitudes among the interested public and the general public on the reliability of measurements and data from authorised institutions, which are used in the preparation of environmental impact studies.

CONCLUSION

The aim of this study was to determine the level of awareness of target groups and sectors on the reliability of measurements and data from authorised institutions, which are used in the preparation of environmental impact studies. Subjects were divided in their views depending on which specific target groups they belong to. The majority of respondents from the *public sector* and the *economic sector* consider that the measurements and data from authorised institutions are reliable and if not, the issue at hand is a criminal offence. However, the majority of representatives of the civil sector do not support this view, having doubts about the reliability of data and not being sure whether to believe the authorised institutions for measurement. Represent-

atives of the public, economic and civil sectors are divided in their opinions and have different views on the role of key stakeholders in the system of public awareness and participation in environmental impact assessment procedures, which makes procedures and decision-making more complex. Due to the lack of high-quality and complete information, all three sectors express mutual distrust, act on the principle of fragmentism, perceive a problem unilaterally and offer solutions for everything, deepening the problem without solving it. This mutual distrust between sectors can only be eliminated through better mutual communication and better information and public participation in procedures.

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