

CITIZENS' TRUST IN INSTITUTIONS AND EXPERTS' ATTITUDES REGARDING MUNICIPAL WASTE MANAGEMENT

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ABSTRACT

This article discusses the problems of municipal waste disposal, i.e. its disposal sites in the community, which is experiencing a constant growth in the tourist offer while attempts are being made to solve the problem of rehabilitation of the existing municipal waste disposal site, and to build a new county center for waste management, including an incinerator. The aim of the research is to examine the views of the citizens of the city of Split, the urban center of Split-Dalmatia County, about the presence of the NIMBY (Not In My Backyard) syndrome, i.e. their fear and distrust towards solving the problem of municipal waste disposal and choosing a location for a new landfill. The focus will be on the attitudes related to trust in waste management institutions. This belongs to the part of quantitative research, carried out with a survey questionnaire, on a sample of citizens of the city of Split (N=450) through on-line biased sampling. Furthermore, using the qualitative method, i.e. the *purposeful sampling* technique, interviews were conducted with representatives of city management, experts, the media and civil society organizations who deal with this issue. In this context, the focus is on their experiences and efforts in the creation, implementation and presentation of public policies to solve this problem. The results of the quantitative research show average trust of citizens in certain management structures of local and national authorities, and other professional and civil stakeholders, and a somewhat lower level of trust in public utility services and the media. They show the least confidence in the state bodies of the Republic of Croatia. The research results highlight, among other things, a lower degree of trust in the media than expected, given that for citizens the media is the main source of information when it comes to environmental problems in the area of the city of Split. It is generally concluded that the media, civil society organizations and political/management structures do not influence the perception of citizens and the creation of an image of current environmental problems in Split. In this sense, challenges arise regarding public communication of this problem, as well as citizens' ecological literacy, that is, basic knowledge about waste management cycles and the nature of municipal waste, and more active citizen participation in these cycles. Therefore, there is a need to develop training programs, such as

citizen science for waste management, to gain knowledge about this problem while developing greater public participation.

Keywords: *citizen science, fear, NIMBY syndrome, municipal waste, trust, waste management*

INTRODUCTION

Although the waste issue is seen as a scandal, a disintegrating factor of the human and world community, on the other hand it is claimed that waste is nevertheless a "symbol" of our way of dealing with the environment [1] the most banal example of environmental risks in our everyday life [2], and the perfect metaphor of the regulatory processes in the management of services [3]. Thus, for example, research on the environmental concerns of Croatian citizens at the beginning of the 21st century [4] recorded a high ranking of the problem of inappropriate municipal waste disposal. In those years, the problem of unsustainable waste management was given priority at the national level, thus including the issue in the priority areas/topics, with an emphasis on waste prevention. The latter particularly relied on the established "waste hierarchy" approach in the countries of the European Union, which includes the avoidance of waste generation and the promotion of its processing, recycling and composting, and reuse [5]. In addition to the aforementioned strategy, a number of national level plans and strategies concerning waste management have been prepared and adopted to date, and in 2015 a complete waste management system was established in the Republic of Croatia, in accordance with the obligation of the member states of the European Union. In addition, one of the last significant obligations or recommendations of the European Commission refers to the promotion related to circular economy which aims at maintaining value of products and materials as long as possible [6].

Parallely, during the last about 20 years, research on this issue in Croatia has been continuously published in scientific and professional periodicals ([4], [7], [8], [9], [10], [11]) but discussions about waste collection and disposal have only in recent years taken up more and more space in everyday discourse and media. In this sense, there are discussions on the effectiveness of public communication regarding the problem, that is, the somewhat belated realization that "public communication plays a vital role in providing infrastructure for waste management" [12] Since the problem is quite present in the public space, a challenge arises to research the quality and effectiveness of its public communication, especially regarding citizens' perception of the problem, on the one hand, and the views of and experts or decision makers on the methods and system of its management, on the other hand. This context was taken as the topic of research in the area of the Split-Dalmatia County and the city of Split. According to the latest Municipal Waste Report for 2021, a total of 188,868.85 tons of municipal waste was collected in this Croatian county [13]. In connection with the mentioned data, i.e. the comparison with previous years does not show

the trend of waste reduction, which is partly attributed to the significant increase in the number of tourist overnight stays, i.e. the sudden increase in the tourism industry.

This research is dedicated to the topic of municipal waste disposal, i.e. the problem of landfills in the community, which is experiencing constant growth in tourism, in the current period when attempts are being made to solve the problem of rehabilitation of the existing municipal waste disposal site and to build a new county center for waste management, including an incinerator. In this sense, special attention will be paid to possible attitudes related to the NIMBY (Not in My Back Yard) syndrome, typical for the emergence of social resistance to the construction of a new public utility facility for the area of waste management. Although, due to the increased problems in waste management, it is assumed that individuals in society are aware of the inevitability of certain investments to solve this problem, at the same time, there is a misunderstanding regarding the processes and investments undertaken, especially in relation to the choice of location for new facilities. The thesis about citizen dissatisfaction and partial ineffectiveness of management structures was confirmed in the research, whereby we highlight the results of quantitative and qualitative research with an emphasis on the inconsistency of public communication regarding this problem.

OBJECTIVES AND METHODOLOGY

In accordance with the topic, the main goal of our research refers to the investigation of the attitudes of the citizens of Split, the urban center of the Split-Dalmatia County, about the presence of NIMBY attitudes towards the problem of municipal waste disposal and the selection of a location for a new landfill. The focus is on the statements in relation to their trust in waste management institutions. This belongs to the part of the quantitative research, conducted with a survey questionnaire on a sample of citizens of the city of Split (N=450) through on-line biased sampling. Using a qualitative method, i.e. the purposeful sampling technique, interviews were conducted with representatives of city management, experts, the media and civil society organizations who deal with this issue. In this context, the focus is on their experiences and efforts in the creation, implementation and presentation of public policies to solve this problem.

The methodological approach includes both quantitative and qualitative methods. The survey method was used to obtain the data on the presence of NIMBY attitudes among the citizens of Split and its surroundings regarding the existing and planned area for municipal waste disposal. The survey was conducted by administering an online questionnaire to all citizens as potential respondents [14]. The decision to conduct this type of survey research was due to epidemiological measures in connection with the COVID-19 pandemic (2021) and the impossibility of the usual in-person meeting with respondents. A sample of N=450 respondents was obtained. In the second part, qualitative research was conducted by applying the purposeful sampling technique, which is widely used

in qualitative research to identify and select cases with rich information for the most efficient use of limited resources [15]. This technique is especially used in research synthesis of quantitative and qualitative research [16], such as this one. It is a mixed model that combines these two approaches in all phases of the research process, not only in methodology but also in data analysis [17]. Purposeful sampling implied the selection of individuals who are particularly familiar or have experience with the analyzed issue [18]. In our case, sampling included choosing four respondents, i.e. representatives of city management, experts, the media and civil society organizations. The interview method was applied to gain insight into the work and activities, attitudes and values of the aforementioned stakeholders regarding the construction of a more efficient municipal waste management system in the city of Split and its surroundings, including the construction of a new waste disposal site, especially considering that quantitative research shows the announced construction of this landfill is one of the main drivers of citizens' dissatisfaction. We conducted the research in the period of June and July 2022, as part of the research work at the Department of Sociology of the Faculty of Humanities and Social Sciences in Split, with title "Risk perception and the presence of NIMBY attitudes of citizens of the city of Split in relation to the problem of the city's landfill". The obtained data from the quantitative research were processed with the statistical program for social research (SPSS), giving the results in the continuation of the work as well as the manuscripts of the conducted interviews for qualitative part of research, with our comments through discussion.

RESULTS AND DISCUSSION

In connection with the possible characteristics of NIMBY attitudes present among citizens, we investigated the presence of fear and mistrust, as determinants associated with the emergence of this syndrome, by offering citizens multiple choice questions (*Table 1*).

The largest percentage of citizens who participated in the survey often feel distrust in the government and experts (48.2%), while 28.2% feel the same sometimes, and 23.6% never. Almost half of the participants feel mistrust in institutions often (49.1%), while 29.1% feel it sometimes, and 21.8% never. Moreover, when it comes to mistrust in waste management technology, there is the highest percentage of those who feel the same way often (48%), while 26.4% of participants never feel mistrust in waste management technology, and 25.6% of them feel it sometimes.

Table 1. Presence of citizen fear and mistrust

Have you ever felt the following:	<i>often</i>		<i>sometime</i>		<i>never</i>		<i>total</i>	
	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>
injustice	200	44.4	160	35.6	90	20.0	450	100.0
fear for your own health and health of your loved ones	152	33.8	186	41.3	112	24.9	450	100.0
fear of devastation	153	38.4	170	37.8	127	28.2	450	100.0
some kind of threat (environmental, economic, financial)	173	38.4	147	32.7	130	28.9	450	100.0
mistrust in the government and experts	217	48.2	127	28.2	106	23.6	450	100.0
mistrust in institutions	221	49.1	131	29.1	98	21.8	450	100.0
mistrust in waste management technology	216	48.0	115	25.6	119	26.4	450	100.0

As for the degree of trust of the research participants in certain political structures and other professional and civil stakeholders, citizens have moderate trust in experts in the field of ecology and the environment as well as in environmental associations. With a slightly lower degree of trust, they are followed by public utility services, the mayor's office and the media. On the other hand, the participants have the least confidence in the state bodies of the Republic of Croatia, which is also evident from the obtained results of the data related to the median of the distribution (M) (Table 2).

Table 2. Trust in institutions and the public

Mark the degree of trust in the following actors:	<i>1</i>		<i>2</i>		<i>3</i>		<i>4</i>		<i>5</i>		<i>Total</i>	
	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>	<i>f</i>	<i>%</i>	<i>f</i>	<i>M</i>
mayor's office	128	28.4	125	27.8	118	26.2	50	11.1	29	6.4	450	2.39
public utility services	103	22.9	147	32.7	130	28.9	49	10.9	21	4.7	450	2.42
experts in the field of ecology and environment	84	18.7	122	27.1	115	25.6	101	22.4	28	6.2	450	2,70
NGOs dealing with ecological and environmental issues	103	22.9	113	25.1	104	23.1	92	20.4	38	8.4	450	2.66
state bodies of the Republic of Croatia	136	30.2	166	36.9	99	22.0	28	6.2	21	4.7	450	2.18
media	120	26.7	149	33.1	128	28.4	31	6.9	22	4.9	450	2.30

It is an interesting fact that the citizens who participated in the research have a lower degree of trust in the media than expected, given that for them the media is the main source of information when it comes to environmental problems in the city of Split (*Table 3*). In connection with the latter results, challenges appear regarding the media communication of this problem as well as citizens' awareness and basic knowledge about the nature of municipal waste and waste management cycles and more active citizen participation. In this sense, there is a need to develop a *citizen science for waste management* training program [24] as a tool for developing participation of citizens.

Table 3. *What is your main source of information about environmental problems in the area of the city of Split*

State your main source of information about environmental problems:	<i>f</i>	<i>%</i>
social network	150	33.3
media (portals, daily press, television, radio)	188	41.8
friends and acquaintances	98	21.8
professional articles and books	14	3.1
Total	450	100.0

Regarding the attitudes of the interlocutors(I) expressed in the interviews with representatives of management structures, the media, public utility companies, and civil society (four interlocutors as representatives of each sector) related to public communication of the waste issue, it can be concluded that no one dealt with this topic at a satisfactory level. The following statements stand out in this context:

- I think that waste is used a lot in the media space as a topic because it is a very interesting topic for the wider community. However, all this occurs in a superficial way. There are mostly platitudes, a few superficial sentences about the topic, but few decision-makers, future/former mayors, chiefs, ministers have delved deeper into the topic to know something more, and more relevant about it... The media also take a superficial interest in the topic. (I2)

- There are all kinds of politicians, ... some worry more, some wait for something to happen by itself and do nothing, they wait for time to pass, and for another government to take care of it... The media also, we can say, do not deal with this topic more seriously, for example now, in this last phase of rehabilitation of the existing waste disposal site. (I4)

Furthermore, the interlocutors were asked about participation in public debates and/or some of the civic initiatives or environmental protests. It can be concluded that the interlocutors participate in them as much as their private obligations and expected behaviors related to the nature of their work allow, but with an emphasis on structured panel discussions, while participating in environmental protests and/or similar initiatives is still expressed to a lesser extent. They say the following:

- Yes, I participate in the adoption of certain acts and when there are some changes within the mentioned structure. (I2)

- Let's say I did, but those are not very important discussions, more like workshops where information was collected and the like. (I4)

- I participated in a conference on environmental protection where experts from various parts of Europe were invited, and they spoke about composting, biowaste disposal and similar environmental topics. (I3)

- As for protests, we are not active in that part because we like to solve some things spontaneously. (I1)

- We joined an environmental protest, normally we do not do that, but we are happy to respond to invitations if they are constructive. (I2)

We were also interested in the views of the interlocutors when it comes to the media and assessing their impact on citizens' perception of the waste problem in the city of Split. It can be said that the media report on the issue, but the question is how much of this information has credible sources. When adding rhetoric used to attract the readership of certain articles and portals, the interlocutors agreed that they should be more careful in their approach, i.e. that:

- The media always blow up any topics for various reasons, mostly because of the readership or viewership, considering that, among other things, it brings them profit. (I3)

- Well, how do the media report on the real situation... In fact, we need to filter which media portray the real situation as objectively as possible, but I think that in the end they are not, that they do not report in such a way. Sometimes when they exert pressure, this does not necessarily mean that it is a real problem, for example. (I1)

- Well, I can't say that they don't convey what is interpreted to them and thus present it to the public. I can't even say that they are uninterested. It's just a matter of superficiality. (I2)

Considering the connection between civil society organizations and citizens and local communities, we were interested in the extent to which civil society influences citizens' perception of waste management problems. Although, as can be said, they are quite connected, it was determined that their influence is not sufficient or at least not as sufficient as the citizens and civil society organizations would like. In this context, it was said that:

- They have a positive effect, but to a small extent. In everyday discourse, it seems as if they are not known about. You can see some progress, considering how it was, but there is still a lot of space. (I 3)

- I think that civil society has an insufficient influence on citizens' perception of the waste problem. Many citizens are not at all aware of the role of civil society, not only in environmental protection but in general and in other topics, and the role of the civil sector as a professional and important stakeholder and participant in various topics from social life is often underestimated. This is partly the fault of civil society. (I 2)

- So, I personally would trust civil associations a lot more, but serious civil associations that warn about the problem, and for me, they would have more credibility than the media. (I4)

The reasons for the above are still to be examined, along with the factors that need to be changed and/or improved in order to achieve positive results.

After looking at the media and civil society and their work and efforts regarding the perception of waste management problems in the city of Split and its surroundings, it is essential to look at the political structures, that is, the stakeholders who make decisions and their influence on the above-mentioned. When it comes to the last group, the interlocutors believe that they are aware of how much a reference to an environmental topic, or for example the ever-present problem with the current municipal landfill, can bring them political points, and that they use it skillfully. However, the problem arises when these conversations are not what the citizens might have expected, and also later when they start and/or don't start with concrete implementation. They describe their opinions and experiences as follows:

- I think that politicians are more and more aware that environmental behavior is one of the most important things for their politics. I think that they are increasingly aware that it is important to incorporate this issue into their plan and program and that this issue must be their top priority. But the problem with politics is that it does not think long-term. (I1)

- I know from experience that in any actions and processes that were oriented against something, where there were two sides, that the winners were always

those who, along with their actions, received support in the form of political pressure. (I2)

- So, they represent something that the citizens would like to hear, and if they can be trusted, you can only hope that they care and that they will deal with it, but whether you can trust them... now it depends from person to person whom they show trust. (I4)

The attitudes of the interlocutors, as can be seen in the previous interpretation of the research results, are conditioned by their position as decision-makers, which directs them towards efforts to inform and cooperate with the public in a way that convinces them of the correctness of the current measures in solving the problem of waste management. At the same time, as shown by the results of quantitative analysis about the measures that have been undertaken to solve this problem, the problems of communication and knowledge about the issue stand out, which has produced a number of indicators of the existence of mistrust between citizens and stakeholders participating in these processes. A strong feature of this mistrust relates to the recognized lack of information and knowledge about the problem.

CONCLUSION

The topic and results of this research show that to solve this important public problem, it is extremely important to engage, motivate and empower members of the public to better understand the complexity of the problem and their role in solving it [19]. A better understanding of the problem, i.e. the inclusion of citizens as the largest part of the public, implies that institutions responsible for waste management, strategic planning, inclusiveness, transparency, continuity, and resources should receive support for achieving goals [20]. It is precisely these challenges that are connected with the research results, which necessarily leads to a perspective that seeks to inform and educate citizens and the public. In this sense, we can also talk about the need to use the recognized advantages of citizen science in the study of waste characterization, for which initiatives and practices are emerging in the world [21]. Harmonized communication about the environment leads to successful activities and engagements built on the value foundations of stakeholders and the local context, which especially refers to the potential of local stakeholders, such as the environmental activities of non-governmental organizations that are focused on children [22]. In other words, in addition to significant strategies, action plans, clear awareness and concern for the problem and process of municipal waste management in the local community, and the openness of public stakeholders for cooperation, public communication about the problem remains to be improved. This certainly requires knowledge and information about the nature of and potential for municipal waste management, which, according to the results of this research, is required by the general public and mostly refers to greater citizen participation.

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