Category: preliminary communication

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Researching Attitudes Related to Municipal Waste Management in Makarska

Abstract:

The research conducted aimed to prove that the ecological awareness of participants in the procedure of waste management in Makarska is not at a satisfactory level, though the cognitive and emotional component of the respondents' attitudes is at a higher level than that of the behavioural component. However, the level of ecological awareness of all participants in waste management procedure in Makarska can be significantly improved by implementing strategies of attitude change. The research was conducted among three groups of respondents which included: tourists, the local population and catering facilities as the main users of waste disposal. The attitudes have been defined pursuant to a Likert's scale consisting of 5 levels.

The results obtained indicate that ecological awareness is low, but that the strategies of attitude change starting in childhood and in educational institutions can significantly increase the level of ecological awareness, and thus improve the behavioural components of attitudes in relation to cognitive and emotional components.

Keywords:

Attitudes, Waste Management, Strategies of Attitude Change

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VALLIS AUREA

Introduction

At a recently held professional conference, after showing a drawing depicting Adam who threw away the remaining part of the apple, one lecturer from England concluded that this marks the beginning of environmental pollution. This small digression shows that a man's negative influence on nature and environment began to show already in early history. In the last couple of thousand years, waste management methods have changed only slightly. Waste deposition still remains one of the easiest, most widespread and oldest methods of waste disposal. The waste landfilling method is mostly used today. Sweeping waste „under the rug„, i.e. waste landfilling causes long-term and extensive pollution, thus becoming burden on the environment which has to be solved eventually. In Croatia, the issue of waste management still manifests in a manner characteristic of undeveloped countries, whereas on the other hand Croatia is a country where tourism is one of the leading business activities.

The Republic of Croatia and its Adriatic coastal area in particular, is mainly oriented to tourism development, which is also another reason why the Makarska region should take extreme care in solving the issues of environmental protection, with emphasised priority in the field of waste management. The „tourist product„ of Makarska is a clean sea and environment, which is in direct cause and effect relation with proper waste management.

THEORETICAL ASSUMPTIONS ON ATTITUDES

Attitudes represent a central component of the mind-set of every individual. The mind-set, apart from attitudes, includes knowledge, beliefs, human values, opinions etc. Attitudes are an overall estimate which shows how much the consumers like or do not like a certain product, service or idea. [1] One could say that attitudes are permanent systems of positive or negative evaluation, feelings and tendencies to launch an affirmative or negative action, in relation to various objects and situations. [2] According to a triple-component model, attitudes consist of three main components: cognitive, emotional (affective) and behavioural (conative). The cognitive component of this triple-component attitude model encompasses the beliefs and cognition of a person, i.e. of knowledge and perceptions acquired in combination with direct experience pertaining to the attitude object and related information from various sources. The emotional or affective component of this model represents emotions or feelings towards a certain object to which the attitude relates. Affection is a general term for feelings or emotions. Attitudes are very often initiated through emotional experiences of which one is not even aware. The behavioural or conative component of attitude explores probability or tendency according to which a person, on the basis of belief or a feeling, may act or behave in a certain manner relating to the attitude object. Recently, research on attitudes has been gaining increasing importance in the process of explaining human behaviour. Attitudes are very complex, and it has been proven that it is not possible to determine, i.e. assume them in advance, hence it is more correct to conclude on them according to conducted research. Therefore, the measurement of attitudes represents a very complex procedure, firstly because people usually do not devote particular attention to analysing their attitudes, although these attitudes significantly influence their behaviour. The process

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of attitude change progresses very slowly, however, factors that influenced the formation of attitudes can also influence their change. Here we mainly refer to the change of the intensity of attitudes, whereas the directions of determined attitudes are more difficult to change

OBJECT AND PURPOSE OF THE RESEARCH

Pursuant to the aforementioned, this paper mainly researched the attitudes of the main participants in the process of waste management in Makarska in order to establish the current level of their ecological awareness. According to the theoretical findings and results obtained through the conducted research, it shall presents proposals for further strategies for changing the attitudes and behaviour of participants in this respect. The measurement of attitudes and other elements that influence behaviour can be successfully conducted only by researching the market via direct interviewing of subjects. The practical segment of this paper is based on primary research, i.e. the interviewing of three groups of respondents with the aim of establishing the level of their ecological awareness. The research included tourists, the local population of the town of Makarska area and catering facilities as the main users of communal waste in Makarska.

RESEARCH AIMS

Starting from the previously stated research issues, the paper raises three fundamental hypotheses:

H1/ The ecological awareness of respondents process in Makarska regarding the waste management is generally not at a satisfactory level

H2/ The cognitive, i.e. emotional component of the respondents' attitudes is at a higher level than their behavioural component.

H3/ Strategies of attitude change can significantly increase the level of ecological awareness of all participants in the process of waste management in Makarska.

The ultimate goal is to propose specific strategies of attitude change that will result in an increase of the level of ecological awareness, i.e. encouraging ecological behaviour in practice. In this sense, special research goals were established, which included:

- Determining general knowledge of ecology, ecological signs etc.;
- Investigating the relation towards the penal system for intentional environmental pollution
- Obtaining data on satisfaction with the quality of organised waste management in Makarska, and the number and layout of waste bins (trash cans and containers);
- Discovering the level of involvement of participants in the process of waste sorting;
- Questioning satisfaction with the current calculation system of waste removal per square meter of residential, i.e. commercial space;
- Researching handling of waste disposal in trash bins in cities and on beaches.

RESEARCH METHODOLOGY

In researching the problems and formulating and presenting the research results of this paper, a combination of a larger number of scientific methods was used, such as: historical method, descriptive method, inductive and deductive method, a method of analysis and synthesis as well as classification and comparison. [3] A special method used for the collection of

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primary data was the questionnaire method. Data was collected from primary and secondary sources. Primary data was obtained via observation and the questionnaire method. Via the questionnaire method, I attempted to obtain data on the respondents' level of ecological awareness, their attitudes and behaviour towards issues pertaining to waste management and similar. The survey was conducted on a sample of 110 locals, 110 tourists and 50 representatives of catering facilities. Intentional sampling was used for the sample selection of the local population, in which occasional sampling was used taking into consideration that the sample included respondents of differing occupations and household income. In the tourist selection, we applied a proportional quota sampling, whereby the same ratio between the control feature (number of tourists from different countries) was kept as in the main group.

Although the questions in the questionnaires were adjusted to different categories of respondents, they were mostly similar or almost the same, both for the representatives of local population and catering facilities and for the tourists. This allows us to compare the results obtained in the interviewing of these groups.

A Likert's scale was used for the measurement of attitudes in the research, in which the respondents were offered approx. 20 formulated statements on the research subject. The scale consisted of five degrees with answers ranging from „completely agree„ to „completely disagree„.

RESEARCH RESULTS AND COMMENT

The research was conducted in its entirety within the period from 01 June to 01 September 2015, i.e. during this tourist season when the largest number of people stayed in Makarska and when possible issues relating to waste management are pronounced the most. Upon the completion of the survey, the results were depicted in corresponding tables. Based on the obtained research results, the level of ecological awareness of the participants was determined. By comparing results of questions where possible, we can conclude the following:

- The first question referred to the membership of respondents in ecological associations and their knowledge of ecological labels on products. The research results showed that most respondents are not members of ecological associations. We should emphasise that membership in an ecological association is more present among tourists (14.54%) than the local population (9%), whereas none of the interviewed representatives of catering facilities is a member of an ecological association.
- The second question referred to waste disposal in waste disposal bins, depending on their distance (up to 50, i.e. over 50 meters). Only tourists and the local population were asked the stated question. With a comparative analysis of the mean values of the obtained results (tourists 1.36 and 1.64, and local population 1.43 and 1.51), it can be concluded that both groups of respondents dispose of waste in waste disposal bins if they are within a distance of 50 meters.
- The third question analysed the issue of waste sorting by the local population in households, i.e. the facilities where they work. The representatives of catering facilities were asked about the habits of their employees in relation to waste sorting. In connection with this issue, tourists were asked special questions, pertaining on their waste sorting habits in their place of their residence and during vacation. By analysing of the mean values of the tourists' answers, we can conclude

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that they occasionally sort waste in their place of residence (1.63), as well as in their place of vacation (2.37), whereas the last mean value is larger and confirms that tourists are less responsible when it comes to waste sorting when on holiday. An interesting fact is that the answers of the local population (mean value 2.15) were identical in relation to occasional waste sorting both in their households and in their workplace. The representatives of catering facilities stated that they also occasionally (mean value 2.0) sort waste in their workplace.

- One of the questions referred to the penalty amount for waste disposal outside of the provided containers. The mean values of the answers (local population 2.22 and catering facilities 1.9) show that the majority of respondents consider that a fine for the stated offence should amount between HRK 500.00 and HRK 1000.00.

This paper shall further on compare answers to the fifth question (consisting of 15 statements) as follows:

- In the first statement: I consider myself an environmentally conscious person, the mean value of the respondents' answers (tourists 1.74, local population 2.16, and representatives of catering facilities 2.36) shows that all three groups of respondents consider themselves environmentally conscious.
- The mean values of respondents' answers to the second statement: Ecological associations can significantly influence environmental protection (tourists - 2.44, local population - 1.95, and catering facilities - 2.28) show that all three groups of respondents mainly agree with this statement, whereas tourists show a slightly less level of agreement.
- The third statement says: When buying products, I take into consideration environmental labels on packaging. The mean value of tourists' answers (2.31) shows that they mainly agree with this statement. However, the mean values of the answers of the local population (3.02) and catering facilities (2.84) correspond with the answer: Neither agree nor disagree.
- The fourth statement referred to the encouragement of waste sorting, and answers were provided only by the local population and representatives of catering services. The mean values of their answers are almost identical, i.e. 1.79 and 1.82, respectively, and the respondents mainly believe that consumers are not encouraged enough to waste sorting.
- With the statement: I think that Makarska does not have enough waste disposal bins or that they are not properly distributed around town, the local population (2.34), and catering services (2.6) mainly agree while tourists' answers are non-specific (2.97).
- With the statement: I think that Makarska has a well-organised waste removal system, the representatives of catering facilities (3.5) mainly disagree, whereas tourists (3.11) and the local population (3.25) neither agree nor disagree.
- All three categories of respondents mainly agree (tourists 1.83, local population 1.78 and catering facilities 1.74) with the statement: The Ordinance on packaging and packaging waste defines a compensation of HRK 0.50 per piece of PET packaging, which we consider to be the main impetus for the separate collection of plastic packaging
- The next statement says: We believe that the producers of PET packaged products should pay a certain type of additional fee for marketing hard

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degradable packaging. The mean values of respondents' answers (tourists 1.93, local population 1.96 and catering facilities 1.98) show that all three groups of respondents mainly support the stated statement.

- All three categories of respondents (mean values: tourists - 1.54, local population - 1.80, representatives of catering facilities - 2.02) mainly agree with the statement that the example of Ireland, which introduced a tax on plastic bags that reduced their production by 90 %, should be applied.
- The tenth statement says: We believe that we should apply the example of Israel, which completely banned the production of plastic bags. As with the several previous statements, the mean values of the answers (tourists - 1.83, catering facilities - 1.92, and local population - 2.19) show that all groups of respondents mainly support this statement.
- All three groups of respondents mainly agree (local population - 1.63, catering facilities - 1.68, tourists - 2.22) with the eleventh statement, which states that intentional environmental pollution is insufficiently sanctioned in Croatia. This high mean value of the tourists' answers might be justified with insufficient knowledge of legislative regulation in Croatia relating to intentional environmental pollution.
- The twelfth statement says: We believe that the fees for intentional environmental pollution in s tourist destination should be significantly higher. All respondents mainly agree with this statement. The mean value of answers provided by tourists is the highest and amounts to 2.38, the value of the representatives of catering facilities amounts to 1.86, and the value by the local population amounts to1.63. It is notable that, in comparison with tourists, local respondents are greater advocates of somewhat larger fines for intentional environmental pollution in tourist destinations.
- Only the local population and representatives of catering facilities answered the thirteenth statement: We would be willing to pay an additional 50 HRK per month together with the invoice for waste removal as a certain type of „environmental compensation„ for people living in the immediate vicinity of waste disposal facilities or waste landfills. The mean values of their answers are identical (local population - 2.69, catering facilities - 2.86), and correspond to unspecified answer of „neither agree nor disagree„.
- The local population and representatives of catering services answered the fourteenth statement, which states: The obligation of a utility company is to dispose of our waste, and our obligation is to settle the due invoices. The mean values of the respondents' answers (1.59 for both categories) suggest that they mostly agree that "everyone has to do their job". This means that the utility company is obliged to dispose of waste, and the local population is obliged to pay the due invoices, which implies that "the local respondents" think that the regular payment of bills implies a high level of ecological awareness - which is, of course, not true.
- Although only tourists answered the statement "I am willing to pay 1 EUR extra per day of stay in Makarska knowing that this money would be used for solving of waste management issues, it is interesting to examine the obtained results. The mean values of the respondents' answers (2.81) point towards the unspecified answer of „neither agree nor disagree„. However, 42.73% of respondents mainly or completely agree with the given statement, which indicates a significant

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deviation from the mean value. For comparison purposes, the local population (2.69) and representatives of catering facilities (2.86) are somewhat ready to pay monthly compensation in the amount of HRK 50.00 for those who are "threatened" by the vicinity of waste management facilities.

- Only the "local respondents" answered the sixteenth statement: An appropriate environmental educational programme should be implemented already the junior grades of primary school. The mean value of the answers of the local population answers amounts to 133, which shows that they completely agree with the given statement, whereas the representatives of catering facilities (1.5) mainly agree.

PROPOSALS FOR STRATEGIES OF ATTITUDE CHANGE AMONG PARTICIPANTS IN THE WASTE MANAGEMENT PROCESS IN MAKARSKA

For the implementation of set goals, mainly raising the level of ecological awareness and waste management in Makarska, it is necessary to successfully choose and combine various strategies of attitude change. Their proper selection, as well as the correct selection of messages, means, promotional activities, transferors and procedures will guarantee the efficient implementation of activities and the realisation of the set goals. Based on the research conducted, in the next part I will propose several strategies for changing attitudes and their components.

STRATEGIES FOR CHANGING INDIVIDUAL ATTITUDE COMPONENTS

Strategies for changing individual attitude components are mainly implemented by influencing a change in one of the attitude components. [4] Given the fact that the attitude components are consistent, it is assumed that a change in any of the three components will result in changes in the remaining two. All three components should be consistent for the determined attitudes on ecological awareness in Makarska to result in environmentally acceptable behaviour.

Changing the cognitive component of the triple-component attitude model attempts to change knowledge and beliefs on environmentally sustainable waste management, thus resulting in changes in tendencies and behaviour. This will be the result of the new knowledge and perception of individuals connected to new data received from various sources.

The affective or emotional component of the triple-component attitude model represents a direct link between emotions and the attitude object. [5] Very often, we are not even aware that our attitudes are directly initiated by various emotional experiences. The inhabitants of the town perceive its cleanliness very emotionally. Research has shown that almost everyone disposes of waste in the designated bin, no matter how far these bins are located. Although the inhabitants take care of the quality of life of their neighbours who live in close proximity to waste management facilities, 59.09 % of them would actually be willing to pay 50 HRK per month as a type of "environmental fee" for those who are directly threatened by the vicinity of landfills.

The collected money could be used to screen some kind of educational film to the population that lives in areas further away from the waste landfills and is unaware of the problems that a landfill brings, in order to introduce them to problems that inhabitants that live near waste landfills face. This

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might cause changes in the affective component of an attitude. According to the aforementioned, it is the affective component that should be influenced with the aim of causing a positive belief and the desired attitude change.

Influences on the conative (behavioural) component of attitude are reflected in attempts to change an individual's behaviour, which may, in turn, lead to changes in their attitudes, beliefs and tendencies. [6] The research and questionnaires refer to the experience of Ireland, which imposed additional taxes for using plastic bags, thus reducing their use for 90 %, as well as experience of Israel, which completely banned the production of plastic bags. The research shows that the majority of respondents are inclined to this practice. For example, 82.73 % of tourists agree with Israel's stance, with which the production of plastic bags was completely banned. Taking into consideration such positive attitudes of all respondents in the waste management procedure in Makarska, it is recommended that we also implement the same criteria and regulations which would result in appropriate behaviour, i.e. changes in the conative component of attitude.

STRATEGIES OF ATTITUDE CHANGE VIA PUBLIC RELATIONS AND PUBLICITY

Public relations strategies represent a long-term planned activity that aims to, by creating positive opinion among the target public, create the conditions for other strategies of attitude change with the purpose of achieving ecologically acceptable behaviour. [7] Public relations strategies offer the creation of a positive environment that enables the successful implementation of other strategies (advertising, publicity and other). The inclusion of the public is crucial for successfully building and implementing a fair and continuously effective system for raising the level of environmental consciousness. The members of the public can act as the "eyes and ears" of the system by determining and encouraging acting against environmental dangers or the violation of corresponding laws. Unlike many other forms of marketing communication, which use one-way communication, public relations as a communication process occurs through two-way communication.

Good relations with the media are of particular importance for positive publicity. These relations are governed by mutual interest, since both sides depend on the quality of publicity. [8] The current situation in the town of Makarska with regard to this issue is relatively good, however, public relations definitely need more improvement via various advertising activities, voluntary cleaning activities etc. to create a positive publicity.

STRATEGIES FOR CHANGING ATTITUDES THROUGH UPBRINGING AND EDUCATION

One of the fundamental prerequisites for the development of every society is a life-long environmental educational system. Today, human behaviour has to be adaptable and open to changes, some of which might be realised in the short run, whereas the others will take more time. The educational system for ecologically sustainable development must be open to everyone, and all educational needs must be the focus of the joint consideration of all social groups, including children, their parents, teachers, civil associations, competent ministries and the local government and administration. [9] Today, environmental education is a global trend that is, to quite a great extent, implemented in the educational system of the

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Republic of Croatia according to the Educational Programme for the Environment and Sustainable Development drafted by the Ministry of Environmental Protection. The need for general ecological education is present at all levels of education, from preschool facilities to universities. This suggests the hypothesis that environmental upbringing and education would be more successful if its implementation was initiated at an earlier age. Primary school is the right place for introducing the basic elements of ecological behaviour as fundamental civil values. Pupils respond very positively to these projects, as they offer them the possibility to practice for their role of future citizens and holders of new views regarding issues of waste management. In this way, children grow up to be adult members of society that will treat the environment critically and responsibly.

Setting up a system for environmental education and communication with the public through programmes organised by business entities, institutional and other institutions and others will provide the basic prerequisites for successful strategies of attitude change and the development of ecological awareness for sustainable environment preservation in Makarska. Hence, it is necessary to initiate "a more aggressive" campaign with the purpose of raising the level of ecological awareness in all aspects. Ecological projects should be launched, but not only theoretically-oriented ones based on the organisation of seminars, but also in the manner of implementing all these theoretical assumptions in "practice" with concrete results, which would allow the participants to see the benefits of their ecological participation on a concrete example and stimulate them to try to change the attitudes of other inhabitants of the town of Makarska, as well as those of tourists, with these creative messages. This would form the basis for further investment in this kind of advertising, with the aim of changing attitudes on ecology and environmental protection.

CONCLUSION

The results of the research conducted clearly and indisputably point to the conclusion that all the set goals have been met in their entirety. In addition, all three of the hypotheses postulated were partly or completely confirmed. The subject of the stated research was determining of the level of ecological awareness of the main participants in the process of waste management in Makarska. The statements in the questionnaire were adjusted to all of the categories of respondents, and to a great extent they were partly similar or almost the same, especially for the local population and the representatives of catering facilities. This allowed for the obtained results to be compared. The tourists also responded to some questions which were characteristic just for this group of respondents. By examining the research results, the following conclusion can be drawn:

Hypothesis H1: The ecological awareness of participants in the procedure of waste management in Makarska is not at a satisfactory level, is hereby partly adopted.

By analysing issues which refer to membership in ecological associations, knowledge of environmental labels on products, waste sorting and other, a very low level of ecological awareness of all respondents was noted. They showed a relative low level of ecological awareness with frequent unspecified answers (neither agree nor disagree) to many answers related to the behavioural attitude component (for example, willingness to pay a monthly compensation in the amount of HRK 50.00

for all those who are "threatened" by the vicinity of waste disposal facilities, conversation of waste and similar). Considering that authorities in Makarska, as the main holders of environmental protection programmes, do not demonstrate the necessary level of ecological awareness, i.e. acting with regard to waste management, this also contributes to the conclusion related to hypothesis H1.

However, the answers to some statements which represent generally accepted theses on ecology and advocating somewhat larger fines for intentional environmental pollution in tourist destinations (hence, statements which mainly refer to the affective and cognitive attitude components among all categories of respondents) demonstrate a high level of ecological awareness among the respondents. Taking into consideration this non-compliance of individual attitude components and the fact that the behavioural component is still a more reliable indicator of the ecological behaviour itself, this reasoning, i.e. the partial acceptance of hypothesis H1 is reasonable. From this research, it can be concluded that tourists in Makarska generally have a higher level of ecological awareness than local population and the representatives of catering facilities. Research results show that tourists in general possess a higher level of ecological knowledge, awareness and behaviour in comparison to the "local respondents".

Hypothesis H2, which states that the cognitive, i.e. emotional attitude component of respondents is at a higher level than behavioural, has been completely proven. As previously stated in the explanation of hypothesis H1, all three categories of respondents demonstrated an avid theoretical knowledge from the field of ecology. Everyone advocated the positive experiences of developed countries (Ireland and Israel) in solving issues relating to plastic bags, and everyone is familiar with the fact that a part of waste can represent useful raw material whose characteristics and material values can be re-used (paper, glass, plastic); however, answers to questions/statements used for determining the behavioural component of the respondents' attitudes have shown that theoretical knowledge is less frequently applied in practice, i.e. that the respondents behave in an ecologically acceptable manner to a lesser extent, or merely in part.

Hypothesis H3, which states that strategies of attitude change could significantly increase the level of ecological awareness of all participants in waste management in Makarska, has been completely accepted. Namely, their ecological behaviour refutes their ecological attitudes, and all the respondents are ecologically sensitive only at a declarative, and not a practical level. However, in order for environmental protection to fully come to life and for sustainable development to be realised, strategies of attitude change should be implemented to influence their change, which should have a positive effect on the change of behaviour. Upbringing, education and the development of awareness on environmental issues with the aim of adopting ecologically sustainable forms of actions, without any question represents a fundamental long-term aim and a basic measure of environmental protection. The argument is simple; most environmental problems are created through the actions of people, therefore it is clear that influencing the cause of the issue basically implies influencing people, i.e. those behavioural patterns that are not ecologically sustainable.

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