

The role of the Media in Raising Ecological-Environmental Awareness in Tetova and the Surrounding area

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Abstract: Citizen protests were started in 2013 by NGOs against air pollution which lasted for several years and initially had a small number of participants but over the years this number began to increase continuously. In this context, the purpose of this paper was to see how traditional and social media have influenced the information and awareness of the population about ecological-environmental problems. To conduct this paper, a questionnaire was prepared with different questions from the field of environmental problems and the way of getting informed about them. Applying the theoretical methods of analysis, synthesis, induction, and deduction as well as the main survey method, we surveyed casual citizens, high school students, undergraduate students, and experts. A total of 136 respondents participated in the survey, of which 15 citizens, 32 students, 84 high school students, and 5 environmental experts. Respondents to the questions posed were able to answer according to the answers required: do not agree at all, do not agree, do not know, agree, and completely agree. The survey showed that the majority of respondents to the questions posed answered with agree. This shows that the media have played a positive role in properly and objectively informing the population about environmental-ecological problems which enabled the increase in the number of protesters and forced the authorities to accept the situation and shut down one of the largest air pollutants in the city.

Keywords: *pollution, social media, ecological awareness, air, survey.*

Introduction

The changes that began in many parts of the world during the nineties also affected the Balkan countries, in which case the transition from a totalitarian to a democratic system began. This was of course accompanied by legal changes in various areas and in this regard in the field of environment as well. The Republic of North Macedonia brought and adapted almost all standardized laws of the EU that were related to the environment.

Tetova and the surrounding area, as well as many other cities in North Macedonia, were facing numerous problems in the field of environment. But, one of the many problems faced by the citizens of Tetova and the surrounding area, which most affected the life and health of the population was the enormous air pollution. However, due to the old legal standards for air pollution, they did not have the opportunity to protest, as according to the law everything was considered normal. But, with the adoption of the new standards which came into force in January 2012, the population was given the legal right to react to the extremely high air pollution in Tetova. The first reactions started as a civic initiative with the organization of protests in December 2013. This initiative enabled the formation of the first NGOs such as "Eco guerila". It should be noted that the first protests had a very small participation of the population, and that is not because they were against protesting but there was no high awareness of participating in protests and reacting.

The demands of the protesters were not even heeded by the government, they even opposed them. It was this arrogant and irresponsible behavior of the government that mobilized even more now the leaders of the NGO "Eco guerila" who in a way became the leaders and forerunners of the protests.

The protest organizers launched an extensive campaign collaborating primarily with experts in the field, students, pupils, citizens and the media. This enabled the forthcoming protests which lasted until 2016, to force the state bodies not only to sit down, talk and take measures to prevent air pollution, but

also to accept and close one of the main sources of air pollution pollution which did not respect the working standards. In this regard, we must emphasize that in addition to the persistence of the organizers, an extremely large role has been given by experts who with their knowledge and scientific results not only showed the main source of pollution but with these scientific results forced the leading bodies of the plant and state to accept them. But, we must emphasize that all this activity has been constantly followed and stimulated by the media, which have correctly informed citizens about environmental pollution, their rights as citizens, obligations and duties, through informative programs, interviews with environmental experts, as well as various articles and interviews with citizens.

Methodology of Research

Subject of research

Given the fact that North Macedonia had already brought all the laws in the field of environment starting from the *law on the environment* and all other laws deriving from this law adapted and harmonized with those of the EU and the specifics of the country, where the limit values of pollutants in a certain environment are clearly defined, and the law on free access to public information, as can be seen below from Articles 17 and 18 of the Law on Environment. The principle of public participation and access to information (URL.01) *The government bodies and the municipal bodies of the City of Skopje and of the municipalities in the City of Skopje, are obliged to provide all necessary measures and describe the procedures that ensure the realization of the right of access to information and public participation in decision-making, regarding the state of the environment, as well as to provide a public statement in the decision-making process* (Government of the Republic of Macedonia, 2006).

The principle of raising public awareness of the importance and protection of the environment (URL.02). *Scientific, educational, health, information, cultural and other legal institutions, including citizens' associations, within their activities, promote and ensure public awareness of the environment, its importance, as well as the need for active participation in its promotion and protection* (Government of the Republic of Macedonia, 2006).

Based on these data arising from the legal regulations, the purpose of this paper was to see how much the population has knowledge about: environmental problems, rights, duties and obligations provided by law, how much, and by whom they are informed about these environmental problems. How much the media have influenced the promotion, information and raising awareness of environmental problems. Starting from this purpose and to answer the questions posed we have used various non-experimental empirical methods; theoretical method of analysis, synthesis, methods of induction and deduction. The main method which was applied in this research was the survey method. So, to see what was the role of the media in raising public awareness of ecological-environmental problems, we have submitted a questionnaire with questions from the field of environment and how they are informed about these issues. The questions asked in the questionnaire are mainly related to obtaining knowledge of respondents on environmental issues and problems, their rights, duties and obligations arising from environmental laws and the ways they were informed about environmental problems. The survey included citizens from different categories of society, starting from: high school students, undergraduate students, casual citizens across the city and experts. Respondents to the questions posed were able to give their answers through these required answers as: ***strongly disagree, disagree, don't know, agree and strongly agree***. The questionnaire as in Table 1 was submitted and completed directly, but also through emails. Data were collected and processed according to the questions asked and the category of respondents.

Table 1. Questionnaire for: high school students, university students, citizens, experts

No.	Institution	Strongly disagree	Disagree	Don't know	Agree	Strongly agree
	High school, Faculty, institution:	1	2	3	4	5
1	Do you think the main parameters of the living environment: soil, air, water today are more endangered than ever before?					
2	<i>The current pollution situation in Tetova and the surrounding area today is better than a few years ago but not yet at the right level.</i>					
3	Do you think that with the cessation of the work of the Jugokrom plant the level of air pollution has decreased?					
4	<i>The main source of pollution of the environment, air, water and soil in Tetovo and the surrounding area comes from the use of fossil fuels.</i>					
5	The main activities of air, water and soil pollution in the city of Tetovo are, industry, traffic, solid waste and household heating.					
6	Air pollution in Tetovo poses the greatest risk to human life and health and requires priority solutions.					
7	Municipal solid waste pollution is the most dangerous pollution and requires priority solutions.					
8	Do you think the lack and supply of drinking water is the most important problem in the city?					
9	Are we informed about our legal rights guaranteed by the law on environmental problems?					
10	<i>Informing platforms, social media influenced your information on environmental problems.</i>					
11	I am mostly informed about environmental problems and activities from social media.					
12	The informing platforms and social media are captured, do not inform correctly?					
13	How much are you interested in and contributing to environmental problems?					
14	Have you participated in actions, organized protests for environmental problems, cleaning, voluntary actions?					
15	<i>Are the bodies working towards solving environmental problems?</i>					
Total						

Results

Analysis and discussion of the answers given by the respondents about the environment

The questions asked to the respondents were formulated in such way that we wanted to get information about:

- Knowledge that the population has about environmental problems and issues,
- Rights, duties, obligations and their participation in environmental activities and actions guaranteed by law,
- Their way of being informed about environmental problems.

We have arranged and analyzed all the collected answers according to the group of respondents. The data are presented in tables and diagrams.

Analysis of the answers given by high school students

In Table 2 below we have presented the answers given by the students to all the questions posed, expressed as numbers and as percentages (%).

Table 2. Students' answers according to the the approximate questionnaire for all questions indicated in numbers and in %

N o	Respondents		Answers to survey questions expressed in numbers															Total	
	Category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	An k.	%
I	Students	84																	
1	Strongly disagree		0	6	2	1	0	1	1	0	4	6	5	6	3	8	23	66	5
2	Disagree		1	20	7	1	0	0	1	12	7	3	9	17	3	15	30	126	10
3	Don't know		4	11	16	24	8	4	13	5	41	14	16	33	30	6	20	245	20
4	Agree		25	35	38	43	30	22	37	34	23	35	36	15	28	24	3	428	34
5	Strongly agree		54	12	21	15	46	57	32	33	9	26	18	13	20	31	8	395	31
Total			84	84	84	84	84	84	84	84	84	84	84	84	84	84	84	1260	
N o	Respondents		Answers to survey questions expressed in %															Total	
	Category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	An k.	%
I	Students	84																	
1	Strongly disagree		0	7	2	1	0	1	1	0	5	7	6	8	4	10	27	79	5
2	Disagree		1	24	9	1	0	0	1	15	8	4	11	20	4	18	36	152	10
3	Don't know		5	13	19	29	10	5	16	6	49	16	19	39	36	6	24	292	20
4	Agree		30	42	45	51	36	26	44	40	27	42	43	18	32	29	3	508	34
5	Strongly agree		64	14	25	18	54	68	38	39	11	31	21	15	24	37	10	469	31
Total %			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1500	100

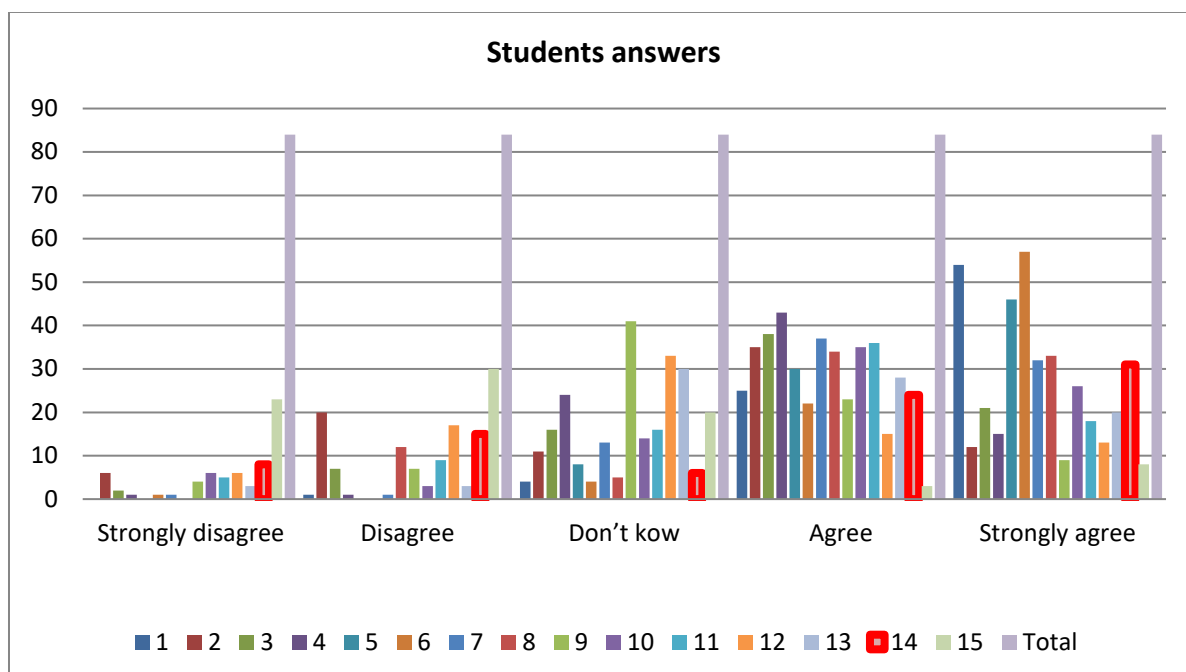


Figure 1. Answers given by students according to the approximate questionnaire for all questions indicated by numbers

As can be seen from Table 2 expressed in percentage, respondents with a higher percentage-which is marked in green in all questions posed answer Agree with 34% and Strongly Agree with 31%.

Analysis of the answers given by undergraduate students

Table 3. Students' answers given according to the approximate questionnaire for all questions indicated in numbers and in%

No	Respondents		Answers to survey questions expressed in numbers															Total	
	Category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank	%
II	Students	32																	
1	Strongly disagree		1	2	0	0	0	0	0	0	2	3	6	0	0	3	14	31	7
2	Disagree		1	9	7	4	0	2	2	2	0	2	1	2	1	4	6	43	9
3	Don't know		0	5	2	12	2	1	0	3	20	8	6	11	8	0	8	86	18
4	Agree		12	11	16	12	20	9	24	9	9	16	16	12	14	12	2	194	40
5	Strongly agree		18	5	7	4	10	20	6	18	1	3	3	7	9	13	2	126	26
Total			32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	480	
No	Respondents		Answers to survey questions expressed in %															Total	
	Category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank	%
II	Students	32																	
1	Strongly disagree		3	6	0	0	0	0	0	0	6	9	19	0	0	8	44	95	7
2	Disagree		3	28	22	13	0	6	6	6	0	6	3	6	3	13	19	134	9
3	Don't know		0	16	6	37	6	3	0	10	63	26	19	34	25	0	25	270	18
4	Agree		38	34	50	37	63	28	75	28	28	50	50	38	44	38	6	607	40
5	Strongly agree		56	16	22	13	31	63	19	56	3	9	9	22	28	41	6	394	26
Total %			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1500	100

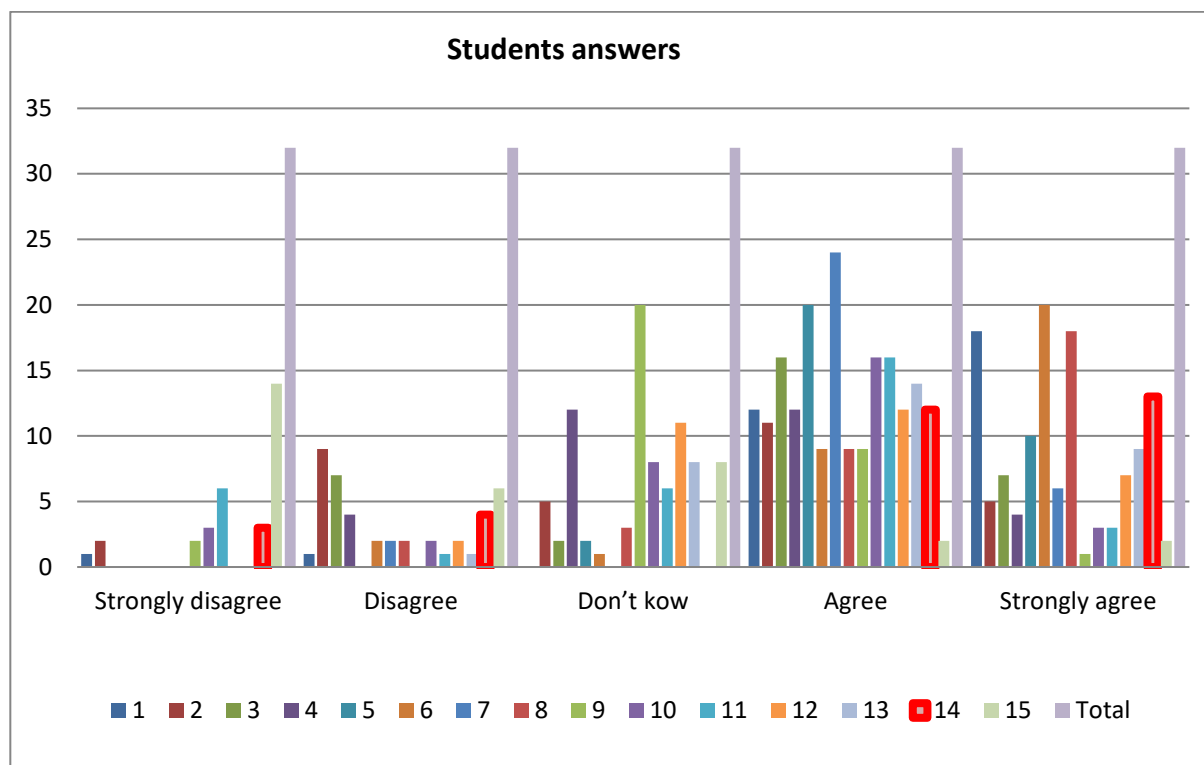


Figure 2. Answers given by students according to the approximate questionnaire for all questions indicated by numbers

Table 3 provides the answers of the respondents - students to all the questions posed. In the table, the answers with the highest percentage to each question are marked in green. Students answered **Agree** with 40% .

Analysis of the answers given by citizens

Table 4. Answers given by citizens according to the approximate questionnaire for all questions indicated in numbers and in %

No	Respondents		Answers to survey questions expressed in numbers															Total	
	category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank	%
II	Citizens	15																	
1	Strongly disagree		0	3	2	3	0	2	0	0	6	0	0	0	2	0	6	24	11
2	Disagree		0	3	2	3	0	4	3	0	5	0	0	4	4	0	3	31	14
3	Don't know		3	4	3	4	3	4	2	0	4	0	0	6	5	3	5	46	20
4	Agree		7	3	5	3	7	2	6	10	0	10	7	3	4	7	1	75	33
5	Strongly agree		5	2	3	2	5	3	4	5	0	5	8	2	0	5	0	49	22
Total			15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	225	
No	Respondents		Answers to survey questions expressed in %															Total	
	category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank	%
II	Citizens	15																	
1	Strongly disagree		0	20	13	20	0	13	0	0	40	0	0	0	13	0	40	159	11
2	Disagree		0	20	13	20	0	27	20	0	33	0	0	27	27	0	20	207	14
3	Don't know		20	27	20	27	20	27	13	0	27	0	0	40	33	20	33	307	20
4	Agree		47	20	34	20	47	13	40	67	0	67	47	20	27	37	7	493	33
5	Strongly agree		33	13	20	13	33	20	27	33	0	33	53	13	0	43	0	334	22
Total %			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	150	10
			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

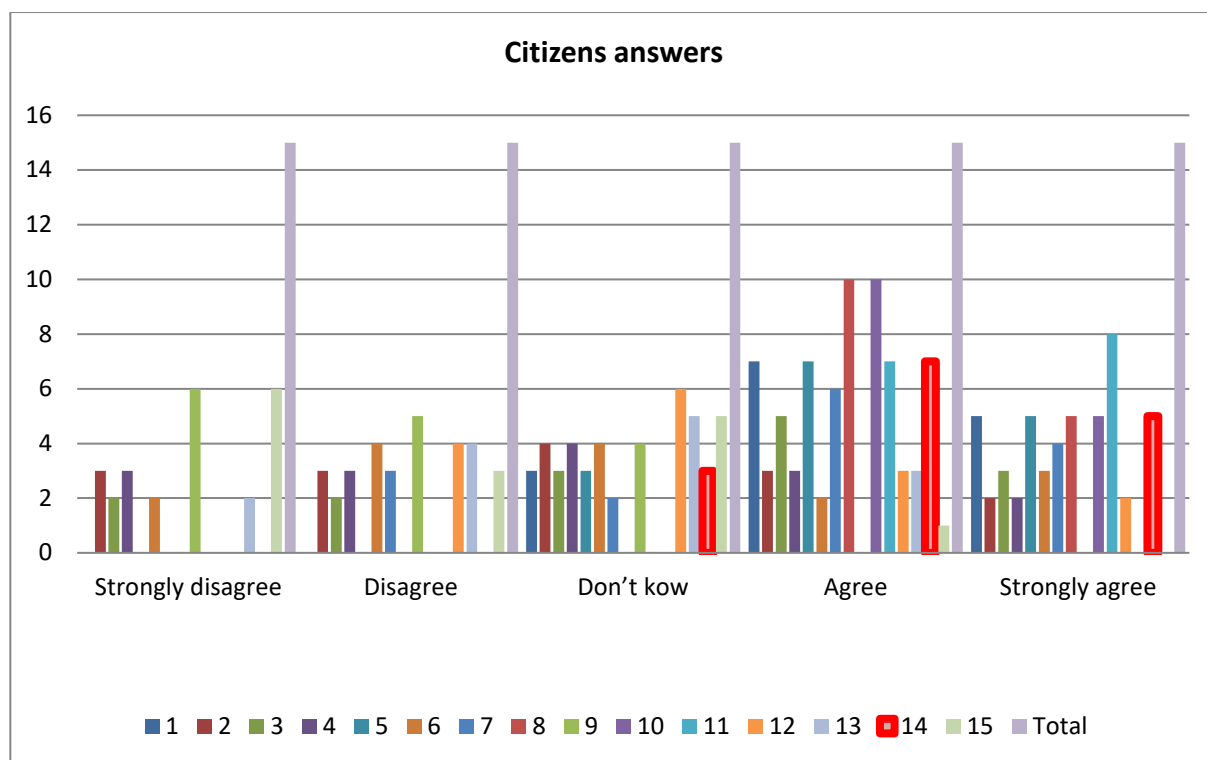


Figure 3. Answers given by citizens according to the approximate questionnaire for all questions indicated by numbers. Citizens answered **Agree** with 33% .

Analysis of the answers given by experts

Table 5. Answers given by experts according to the approximate questionnaire for all questions indicated in numbers and in%

No	Respondents		Answers to survey questions expressed in numbers															Total		
	Category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank	%	
1	Experts	5																		
1	Strongly disagree		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Disagree		0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	3
3	Don't know		0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	3	4
4	Agree		3	0	0	2	0	3	2	1	3	4	2	2	3	4	4	33	44	
5	Strongly agree		2	5	5	3	5	2	1	4	2	0	3	1	2	1	1	37	49	
Total			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	75		
No	Respondents		Answers to survey questions expressed in %															Total		
	Category	No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank	%	
1	Experts	5																		
1	Strongly disagree		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Disagree		0	0	0	0	0	0	40	0	0	0	0	0	0	0	0	40	3	
3	Don't know		0	0	0	0	0	0	0	0	0	20	0	40	0	0	60	120	8	
4	Agree		60	0	0	40	0	60	40	20	60	80	40	40	60	80	20	600	40	
5	Strongly agree		40	100	100	60	100	40	20	80	40	0	60	20	40	20	20	740	49	
Total %			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1500	100	

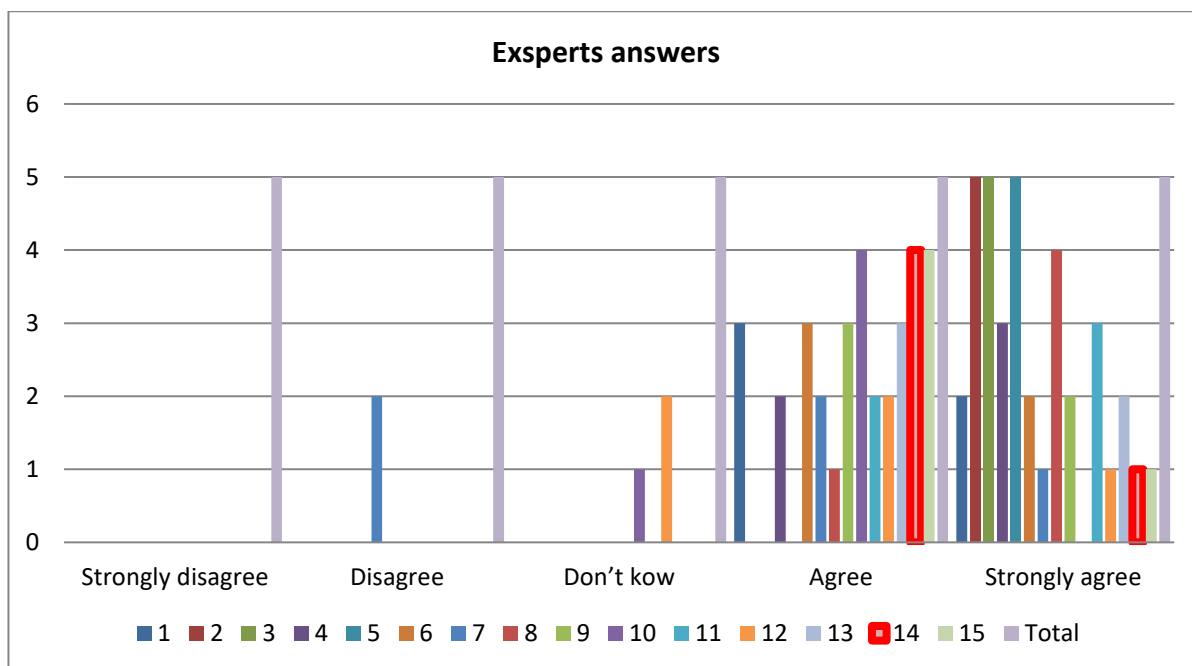


Figure 4. Answers given by experts according to the approximate questionnaire for all questions indicated by numbers

Experts, in contrast to other respondents who respond with a higher percentage of **Agree**, answered with a higher percentage of 49% with **Strongly Agree**.

Analysis and comparison of answers given by respondents

To compare and analyze how the respondents answered the questions posed, the results from their answers are presented in a common table. But, since the number of respondents was not the same to do this analysis, the answers to the given questions will be presented in percentage (%).

Table 6. Answers given to the respondents according to the approximate questionnaire for all questions expressed in percentage %

No	Respondents		Answers to survey questions expressed in %															Total	
I	Students*	84	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank.	%
1	Strongly disagree		0	7	2	1	0	1	1	0	5	7	6	8*	4	10	27	79	5
2	Disagree		1	24	9	1	0	0	1	15	8	4	11	20	4	18	36	152	10
3	Don't know		5	13	19	29	10	5	16	6	49	16	19	39	36	6	24	292	20
4	Agree		30	42	45	51	36	26	44	40	27	42	43	18	32	29	3	508	34
5	Strongly agree		64	14	25	18	54	68	38	39	11	31	21	15	24	37	10	469	31
Total %			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1500	100
II	Students	22	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank.	%
1	Strongly disagree		3	6	0	0	0	0	0	0	6	9	19	0	0	8	44	95	7
2	Disagree		3	28	22	13	0	6	6	6	0	6	3	6	3	13	19	134	9
3	Don't know		0	16	6	37	6	3	0	10	63	26	19	34	25	0	25	270	18
4	Agree		38	34	50	37	63	28	75	28	28	50	50	38	44	38	6	607	40
5	Strongly agree		56	16	22	13	31	63	19	56	3	9	9	22	28	41	6	394	26
Total %			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1500	100
III	Citizens	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank.	%
1	Strongly disagree		0	20	13	20	0	13	0	0	40	0	0	0	13	0	40	159	11
2	Disagree		0	20	13	20	0	27	20	0	33	0	0	27	27	0	20	207	14
3	Don't know		20	27	20	27	20	27	13	0	27	0	0	40	33	20	33	307	20
4	Agree		47	20	34	20	47	13	40	67	0	67	47	20	27	37	7	493	33
5	Strongly agree		33	13	20	13	33	20	27	33	0	33	53	13	0	43	0	334	22
Total %			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1500	100
IV	Experts	5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank.	%
1	Strongly disagree		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Disagree		0	0	0	0	0	0	40	0	0	0	0	0	0	0	0	40	3
3	Don't know		0	0	0	0	0	0	0	0	0	20	0	40	0	0	60	120	8
4	Agree		60	0	0	40	0	60	40	20	60	80	40	40	60	80	20	600	40
5	Strongly agree		40	10	10	60	10	40	20	80	40	0	60	20	40	20	20	740	49
Total %			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1500	100
No	Respondents		Answers to survey questions expressed in %															Total	
Total Respondents	136		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Ank.	%
1	Strongly disagree		1	8	3	3	0	3	1	0	9	6	8	4	3	8	32	89	5
2	Disagree		1	2	1	6	0	4	5	1	9	4	7	1	6	1	2	146	10
3	Don't know		5	1	1	2	1	7	1	6	4	1	1	3	3	7	2	282	19
4	Agree		3	3	4	4	4	2	5	4	2	4	4	2	3	3	5	536	36
5	Strongly agree		5	1	2	1	4	6	3	4	9	2	2	1	2	3	8	447	30
Total %			10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	1500	100

* High school students

From Table 6 we see that all respondents to all questions asked with a large percentage (green squares) answered **Agree with 36%**. In particular: high school students with 34%, undergraduate students with 40% and citizens with 33% with a higher percentage answered with **Agree**, while experts with a higher percentage of 49% answer with **Strongly Agree**.

Conclusion

From this research we can draw the following conclusions:

- North Macedonia turns out to be among the countries with high environmental pollution, according to reports from world institutions, such as WHO and World Bank.
- We are mainly dealing with air pollution, and the highest pollution at the state level was in Tetovo.

- With the entry into force of new laws and standards harmonized with those of the EU, the state is obliged to respect them. But, in fact, although the observance of the new standards for air had to start from January 2012, air pollution continued to be alarming in the city of Tetovo.

Precisely, based on these laws according to which citizens have the right:

- *To live in a clean and healthy environment,*
- *For information and free access to information,*

The informing platforms, social media and television continued to inform the general public on a daily basis about the situation with the environment, through the presentation of the situation on the ground, the reaction of the population, as well as interviews conducted by environmental and health experts.

This enabled:

- Raising awareness of the population,
- Establishment of NGOs (Eco Guerila), and
- The start of civil protests in December 2013 which continued to intensify and lasted for several years until they forced the government to take appropriate measures for air protection.

Today, we can freely say, as we saw from the results of the respondents that:

- *The citizens of Tetovo and the surrounding area are well informed about environmental problems, their rights and obligations, and*
- *Due to this and their reaction in Tetovo we have much cleaner air, but not yet according to the allowed limit values.*
- *That the media-social networks with which citizens are constantly connected through electronic devices, have made a very important contribution to informing and sensitizing the population about environmental problems.*

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