

DOKUZ EYLÜL UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED
SCIENCES

ASSESMENT OF IMPACT OF EDUCATION ON
ENVIRONMENTAL AWARENESS IN THE CASE
OF AYDIN, ÇİNE

by
Çimen MUKYEN

May, 2013
İZMİR

**ASSESSMENT OF IMPACT OF EDUCATION ON
ENVIRONMENTAL AWARENESS IN THE CASE
OF AYDIN, ÇİNE**

**A Thesis Submitted to the
Graduate School of Natural and Applied Sciences of Dokuz Eylül University
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The Degree of Master of Science in
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**by
Çimen MUKYEN**

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M.Sc THESIS EXAMINATION RESULT FORM

We have read the thesis entitled “ASSESSMENT OF IMPACT OF EDUCATION ON ENVIRONMENTAL AWARENESS IN THE CASE OF AYDIN, ÇİNE ” completed by ÇİMEN MUKYEN under supervision of ASST. PROF. DR. SEVGİ TOKGÖZ GÜNEŞ and we certify that in our opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Science.



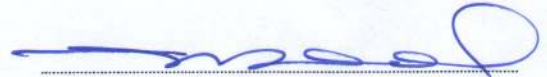
Asst. Prof. Dr. Sevgi TOKGÖZ GÜNEŞ

Supervisor



Assoc. Prof. Dr. Hülya Boyacıoğlu

(Jury Member)



Prof. Dr. Türey Baran

(Jury Member)



Prof. Dr. Ayşe OKUR

Director

Graduate School of Natural and Applied Sciences

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ASSESSMENT OF IMPACT OF EDUCATION ON ENVIRONMENTAL AWARENESS IN THE CASE OF AYDIN, ÇİNE

ABSTRACT

In spite of the fact that environmental and water education activities have in recent years accelerated in Turkey, studies on this subject have been carried out at primary level. Whereas, it is known that it must be performed in the solution of water-based problems by identifying with for all commonwealth of environmental education and with real life. In this study “Steps from Çine for our World Water Management Project”, which was conducted by Çine Municipality, was taken a poll to participants about before and after training in order to determine the contribution of education on environmental awareness, consciousness and water saving for elementary school students, housewives, village headmen and municipal employees, who live in Çine a county of Aydın. The polls were analyzed with McNemar’s test by using SPSS 13 package of 0.05 significance levels. When we compare each group’s environmental awareness and consciousness levels before and after education, it has been seen a meaningful diversity at their environmental diversity and consciousness levels on farmers, housewives and students, whereas on municipal employees haven’t been seen statistically a meaningful diversity. As for when we compare water saving levels of groups before and after training, on housewives have been seen a meaningful diversity at water saving, whereas on municipal employees, students and farmers haven’t been seen statistically a meaningful diversity.

Keywords: Environmental awareness, environmental consciousness, water saving

AYDIN ÇİNE’DE EĞİTİMİN ÇEVRESEL FARKINDALIK ÜZERİNE ETKİSİNİN DEĞERLENDİRİLMESİ

ÖZ

Türkiye’de son yıllarda çevre ve su eğitimi faaliyetleri hız kazanmasına rağmen bu konudaki çalışmalar ilköğretim düzeyinde gerçekleştirilmektedir. Oysaki suya dayalı çevre problemlerinin çözümünde çevre eğitiminin toplumu oluşturan tüm bireylere yönelik olarak ve gerçek hayat ile ilişkilendirilerek uygulanması gerektiği bilinmektedir. Çine Belediyesinin yürüttüğü Dünyamız İçin Çine’den Adımlar SuYönetimi Projesi bu çalışmada, Çine ilçesinde (Aydın) yaşayan ilköğretim öğrencileri, ev hanımları, muhtarlar, belediye çalışanları ve çiftçilerin çevresel farkındalık, bilinç ve su tasarrufu konusunda eğitimin katkısını belirlemek amacı ile eğitim öncesi ve sonrası olmak üzere katılımcılara anket uygulaması yapılmıştır. Anketler SPSS 13 paket programı kullanılarak, 0.05 anlamlılık düzeyinde, McNemar testi ile analiz edilmiştir. Her bir grubun eğitimden önce ve sonra çevresel farkındalık ve bilinç düzeylerini karşılaştırdığımızda çiftçiler, ev hanımları ve öğrencilerde çevresel farkındalık ve bilinç düzeylerinde anlamlı bir farklılık görülürken, belediye çalışanlarında istatistiksel olarak anlamlı bir farklılık görülmemiştir. Grupların eğitimden önce ve sonra su tasarrufu düzeylerini karşılaştırdığımızda ise ev hanımlarında su tasarrufunda anlamlı bir farklılık görülürken, belediye çalışanları, öğrenciler ve çiftçilerde istatistiksel olarak anlamlı bir farklılık görülmemiştir.

Anahtar Kelimeler:Çevresel farkındalık, çevresel bilinç, su tasarrufu.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

Human beings both live within and depend on the environment for their survival. Environment mainly consists of two main parts; namely natural and artificial environment (Ertürk, 1998). The human mind and technology have helped humans utilize their natural environment to convert it into a more intensive artificial environment. Understandably, development and changes in technology result in changes in the natural and artificial environment(s). The natural environment can be said to have its own special balance. Nevertheless, society's intensive activities have ruined this balance, resulting in environmental problems that we have faced for a long time. Besides these activities, Keating(Palmer, 1998) articulates that human beings have been recently confronting many environmental problems because of global population explosion, growing demand for food, tropical deforestation, and extinction of biological resources (genes, species, populations and ecosystems). In addition, human have impacted the land causing serious degradations, increasing poverty and starvation, growing water demand, and declining water quality, growing energy demand, unsustainable use of resources and unsustainable development. The environmental problems mentioned above pose a threat to people all over the world. Looking at the specific case in Turkey substantial environmental threats are increasing rapidly due mainly to urbanization, industrialization, the cost of life and local population explosions through the last three decades. As can be understood, humans have recently been utilizing a large amount of natural resources in order to increase and improve the quality of life. This situation has started to degrade the environment in which we live. The resulting environmental threat has initiated a movement in both the formal and nonformal education system, which has led specialists to consider providing environmental education in schools.

As reported by Palmers (1998), the only solution in overcoming these global problems is that global population needs to be better educated for environmental

issues and problem. In other words, environmental education will be the central factor in raising public awareness in environmental issues. Fortunately, environmental education has recently been strongly emphasized and taken into consideration when planning school curricula by developed and developing countries. Non-formal organizations and governmental organizations plan several activities (such as summer camps, environmental education project...etc) so as to enhance environmental consciousness among individuals. The chief aim of these activities is to promote environmental awareness and consciousness among individuals, and motivate them to take action to overcome the problems and sustain the environment.

1.2 Aim of Thesis

It is a well-known fact that educational activities are important in finding long-lasting solutions to water-based environmental problems (Auriault, 1998; Ergin, 2008; World Water Assessment Programme[WWAP], 2006). Training people as conscious and sensitive individuals about the use and the protection of water resources is the most important step towards solving these problems. In this context, we need to inform individuals about water resources and their current status and help them achieve a positive change of behavior in the framework of water saving. Since these problems cause global changes, they should be dealt with a new and broad perspective. The short-term solution to these problems is expected from adults of the community. Environmental education activities performed in Turkey are usually either in form of education (training) activities as symposiums, seminars and conferences or training activities intended for adults where participants are passive or in form of informing through the media.

Nowadays, the increasing environmental problems, the importance of environmental education and environmental awareness of the people to remedy the problems identified and the necessity of finding solutions come to the fore. Despite the abundance of environmental problems in Turkey is limited to the environmental sensitivity studies.

The studies in order to raise awareness on environmental education have increased in the last 10 years. In our country, at different levels of environmental interest, attitude, sensitivity, and a limited number of studies examining the levels of awareness include.

If we look at from this perspective, there is no research in Turkey which has a large share of the basis of society, “students, headmen, housewives, farmers and municipal employees” who were involved, awareness to the environment is analyzed according to education.

In this study, we aimed to evaluate in order to determine the contribution of education, including pre-and post survey was administered to participants.

1.3 Characteristic of the Study Area

Çine is a town and a district of Aydın Province, in the Aegean region of Turkey, 38 km from the city of Aydın, on the road to Muğla. As a result of the Address Based Population Registration System of the Year 2010, according to the Statistics Agency of Turkey (1/28/2011), the district population is 52.841. Of this population, 20.443 people in the center, 2.670 people in Akçaova resort, 29.728 people live in the villages.

Çine is an attractive rural district in the southern part of the valley of the Büyük Menderes River, on the southern flank of Madran mountain. The local economy depends on mining of quartz and amethyst, forestry and agriculture. Also Çine has a lot of dams which their names are Çine Adnan Menderes Dam, Topçam Dam, Akçaova, Çatak Pond. Thus, irrigated land has increased along with the activity of these dams. This will be followed by further development of the county's economic and socio-cultural field.



Figure 1.1 Aydın province

1.4 Literature Review

As a result of the literature research in many areas of different environmental awareness, environmental knowledge, consciousness and attitude studies have been carried on. Some of these studies are as follow:

The project, its name Nature Education in Ihlara Valley (Aksaray) has been studied by Uzun and Keles, (2012), it was observed that the participants have a high environmental awareness and behavior. It was found that between scores of pre- test environmental awareness and attitude points and post-test points have a significant effect. Consequently, nature education maked on participants' awareness and behavior good effects.

In this study, Tor (2009) wanted to see at increasing womens' environmental awareness by the environmental education. First of all, a questionnaire was implemented the women to understand their knowledge level. After that, an education program was administered. Eventually, the education program was found

usefull for the women because their post-test scores were higher than the pre-test scores and the women had a good willing about environmental education.

Cetin and Nisançi (2010) wanted to show that the instruction methods in the new biology curriculum were more effective than the traditional method to increase the students' environmental awareness. It was seen that the students' performances in new method was better than the old traditional method. Also the students were very quick about learning and remembering and they started to be relaxed. So this new approach made them more pleasant and effective about enhancing their environmental awareness.

Güven and Aydogdu (2011) aimed this study to reveal candidate science teachers' knowledge level towards the environmental problems. On the other hand, to analyze whether their knowledge level show a difference according to gender. As a result, teacher candidates' knowledge levels were different according to the items in the scale and observed in sufficient level. Other consequences, the teacher candidates' scores avarages did not have a significant effect regard to gender.

With this study, Tayci and Uysal (2012) presented relationships between "environmental knowledge" and "environmental behavior" of students at 5th and 8th grades in elemantary school according to sociodemographic factors. As a result, females' environmental knowledge and behaviors are higher than males. Also there is no statistical significant difference between environmental knowledge and behaviors of 8th grade students according to monthly income, number of family members living together, mothers' educational status and fathers' educational status. Generally, it is observed that students in our country don't have enough environmental awareness and knowledge.

In this study was conducted city size in Adana by Yücel and others (2008) wanted to aim level of urban populations' environmental awareness. As a result of the study, it was found a significant differ between environmental consciousness and attitude. Also it was evaluated that urbans' environmental sensivity was mid-level. However,

the awareness of womens' was found higher than mens'. It is observed that environmental awareness was depended on education and income level.

Ergin, et al. (2010), in this study, unlike the "passive" activities done, adults were subjected to a workshop called Water Awareness Project that is designed according to constructivist learning approach where they can attend as "active" participants. The aim of this study is to help adults to become environmentally responsible citizens by bringing solutions to environmental problems with water awareness. Thus, the effect of Water Awareness Education, in which educative materials for water awareness are used and adults participate actively, on adults' awareness, attitudes and behaviour on water-related issues were examined.

In this study, in order to raise awareness, activities regarding water knowledge, water pollution and water preservation were organized allowing active participation of adults. The results of pre-test and post-test of the Water Understanding Test were not significantly different: Only a limited increase was observed in post-test scores. In the permanence test, the increase in the learnt concepts was consistent. Results show that the participants are familiar with water-related issues, however the post-test and permanence test results are not found to be significantly different. The reason might be that the activities prepared in this project did not cover adequate levels of new information for adults. Therefore, while preparing research activities, using a wider range of information is recommended.

CHAPTER TWO

ENVIRONMENT AND EDUCATION

2.1 Terms and Definitions Related to Environment

2.1.1 Environmental Concept

In the broadest sense, it can be described as a creature living “environment” were examined various aspects and identified different ways. Such as by Ertürk “environment”, it is a external space that all creatures continue relationship during lifetime (Ertürk, 1996). According to Erinc “living beings, they are connected to the vital ties, affect and are affected by living space units that creature is called community living environment or the environment” (Erinc, 1984). Sociologists describe “environment” all the external factors that may affect an individual, a society or a social cluster of biological, social and cultural life (Ozankaya, 1975). Ecologists use “environment” as a concept of everything in the universe, live or dead, associated with the individual (Kıslalı & Berkes, 1985).

2.1.2 Environmental Consciousness

Sociologist, psychologist, philosopher and environmentalists looked at the “environmental consciousness” different windows in accordance with the guidance of professional perspectives and areas of specialization and as a result, they described it different and interpreted. For example, Cepel described environmental consciousness like this: “It is way of behaviour, attitude, thinking that individuals, communities with environmental in order to have a balanced relationship (Cepel, 1995).” As seen in Cepel emphasized that human-environment relations and humans’ environmental thinking, attitude and behavior that they showed as he defined environmental awareness.

According to some thinkers, environmental consciousness is all views, theories reflected society-environment relations problems and their opinions (Osyanikova et al., 1998).

Consciousness, to the difference, recognition, detection, knowing the social and natural environment, as shaped the relationship between the individual and the external environment, through an introspective mind to recognize their own inner world, perception, also it was undertook functions that internal environment-oriented.

2.2 Definition and Objectives of Education for the Environment

Education for the environment which is made definition by W.Stapp in 1964, scientists who followed him and after that date of the scientific studies provided the basis. According to Stapp, “education for the environment is, having knowledge of the problems associated with biophysical environment, aware of how to solve these problems, and an education to create individual which is motivated to work for the solution of these problems” (Ornek, 1994). Education for the environment in all environments (school, factory, farm, workplace etc.). should be given and the environment should be used as a both the education subject and the medium and also intermediary (Geray, 1997).

An education for the environment is not only to create eco-individuals who have a higher ecological sensitivity and environmental awareness, but also the education of healthy living and taking responsibility, but also sustainable living, social welfare, and the guarantee of global peace.

According to Good, “education for the environment covers with the individuals’ socio-cultural and biophysical environment relations, the values and attitudes how to recognize and distinguish.” Again, according to Good, “environmental education aims to educate individuals who are aware of the problems facing the world, know how to solve these problems and volunteered to this. Information, becoming aware, dealing with consist principles of environmental education (Good, 1973).

Ileri approaches the issue of the purpose of education for the environment: The main objective of environmental education does not brings up human who receives culture of the robot and atomistic, thinks and live self-centered, its aim must be people to socialize who is equipped environment, culture, art with an understanding of the scientific approach in accordance with the information age, who has reached balance hearth and head, who is able to serve his country and the future of humanity and think we are based in, who can live with joy caring and produce solutions (Ileri, 1998).

Ispir's approach is a little different the main objective of education for the environment: “The basic aim of environmental education to explain society and people, nature and man-made environment, its the complex structure; that make up this structure of biological, physical, social, economic and cultural characteristics how they affect each other; various material and spiritual values, attitudes and practical solutions, to improve the environment and the solution of environmental problems, to investigate participating in a responsible and effective way. On the other hand, the areas of environmental problems were occurred and established the necessary link between training methods are among environmental education goals (Ispir, 1991)’’.

2.3 Environmental Education Development Process and Situation in Turkey

In the early period of the first studies on the nature of environmental education was indicated as a nature observations, out of school activities and nature conservation activities were emerged (Wheeler, 1975; Stevenson, 2007). The main purpose of observation of nature provides students to experience nature and be aware of its value. Nature conservation activities in this early period have helped coming to the fore on the subject of ethical and aesthetic values.

Thus, individuals understand the importance of natural resources and it will be provided their active participation in the effective management of these resources. All of these early efforts, a remarkable change could not be obtained factual findings concerning triggered in the socio-economic and political structure western developed

democratic countries. However, by the year 1960s, it was accepted rapid population growth that main reason behind the serious environmental disasters in various regions of the world. Activities to protect the environment have gained momentum with the participation of all segments of society in developed democratic countries, after the 1960s. In light of these developments, human environment of social, economic, political, historical, and aesthetic dimensions have been revealed. These social movements have activated governments, the necessary legal arrangements have been made, in this regard the necessary institutional structures were established that they will research and it was started necessary initiatives at the international level.

Environmental cases came up with the Constitution of 1982 in Turkey. 56 article of the Constitution, “Everyone has the right to live a healthy, stable environment. It was brought principle “it is duty of the state and citizen to improve environment, to protect environment health and to prevent environment pollution.” Environmental Law was prepared in accordance with the directives of this article and was entered into force on 11 August 1983, the environment have been addressed air, water, soil as an ecological system as a set of components. In Turkey in early period studies on the status of environment education was evaluated with detail in Environment Foundation of Turkey in Ankara by the ‘Environmental Education’ meeting titled in 1993 (Türkiye Çevre Vakfı [TCV], 1993).

Secondary education students to gain the necessary environmental awareness, the Ministry of Education by the Board of Education 1992/96 with the decision, among the lessons to be taught at the secondary level optional course proposed for Environment and Human desirable for various reasons, have not been successful. Environment education at secondary level, an elective course which instead of by only a limited number of students read, it was taken as a recommendation which all secondary level students to train for this issue by the Ministry of Environment in İzmir in 2000, the 4th Environment council (TCV, 1993) has been Rio decisions based on the 1995-1997 between the State Planning Organization for the first time, prepared by the National Environmental Action Plan

of Education and Participation Report assessment of the current situation in this regard as well as a detailed public education about the environment given strategy.

The human factor who takes place the focus of sustainable development in Turkey's National Environmental Action Plan is discussed in almost every part of the plan. Education and Participation Report that provided the basis for this plan; access to information, research and experimentation, training programs, college education, staff training, public education and co-operation with under the headings, it was given a strategic plan for the realization of effective environmental education. Environmental education is also discussed in some of the meetings were held in the following years in Turkey (Kiziroglu et al., 2000). A scientific meeting with entitled 'environmental education' was made between 18 and 19 October 2007 by Environment Foundation of Turkey at Ankara and discussed the current situation in each level in Turkey by experts (TCV, 2007).

2.4 Environmental Education as the Main Component for Water Education

Water resources have faced the global dimensions of important problems in the last century. Water scarcity is becoming a common and apparent problem in many countries throughout the world and the quality of water deteriorates rapidly (WWAP, 2009). These problems are also important not only environmental aspects, as well as social and economic chain to have caused many problems (Brody, 1995). The places of drinking and potable water supply are under the influence household and industrial waste, excess fertilizers and pesticides used in the unconscious and their adverse effects, besides that, urbanization and the rapid increase in population (United Nations Environment Programme [UNEP], 1987; WWAP, 2006; 2009).

Although, Turkey is not seen 'as a water-poor country' about water resources, there are a large part of the water problems due to the lack of awareness of the water (Sahin & Yilmaz, 2008). These problems in the world and in Turkey have revealed the need protection of water resources and transporting in a healthy way for future generations and the subject was begun to address international meetings, programs

and commissions (WWAP, 2009). In international conferences and meetings, as well as, strategies to be developed on the state and sustainable use of water resources which will be given to individuals in this area focuses on the importance of information and awareness-raising activities.

Educational activities are known a fact that have an important place in the among permanent solutions related to water environmental problems (Auriault, 1998; Ergin, 2008; WWAP, 2006). It is the most important steps to be taken to educate conscious and sensitive individuals solve these problems about conservation and efficient use of water resources. In this context, individuals should be given information about the status of water resources and created a change in behavior about positive attitudes within the framework of water conservation. At this point, it will be useful to look at the aims of water education. According to Auriault, the purposes of education in water:

- On issues such as water resources, water use, water pollution, water conservation and management are provided information,
- Behavior and attitudes to gain on efficient use of water and protection of water resources
- On protection of water resources and reduce pollution personal and social responsibility should be to acquire and to ensure the participation of individuals.

A training will be given on the protection of water resources and using consciously, in general will increase humans' environmental awareness and it provides that individuals and society become sensitive to the environment and its important elements of water resources (Küçükçankurtaran, 2007). Water and water-related environmental problems in our country in recent times reveal once again the the importance sustainable use of water resources and water-related environmental that people should be conscioused.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Population and Sample

The sample of this study consists of 44 students, 89 housewives, 12 headmen, 37 farmers and 19 municipal employees who live in Cine (Aydın). In order to determine the contribution of education, including pre-and post-survey was administered to 189 participants (except headmen) about environmental awareness, consciousness and water conservation. Village headmen on the basis of the pre-training questionnaire containing the same questions again and a separate general assessment are deemed appropriate. So the research was carried out with the participation of totaly 201 people between 2008 and 2011.

3.2 Data Collection Tools

Questionnaire was used for data collection. Surveys were prepared by academics in Dokuz Eylül University, Environmental Engineering Department. The surveys were implemented each participants groups at the beginning and at the end of training. The surveys are prepared that have average common 30 item questions.

Water resources management within the scope of the training program between the years 2008-2011 and the European Union have been trained under the general heading into groups listed below.

- Municipal Employees,
- Headmen,
- Farmers,
- Housewives,
- Students.

The total value of each of the group training days and times below in Table 3.1 are given.

Table 3.1 All groups training days and hours

Participants	Total number of days	Total number of lessons
Municipal Employees	1	8
Headmen	1	8
Farmers	2	16
Housewives	2	16
Students	2	16

Education, as well as oral and power point presentations, evaluating the current situation in order to determine the contribution of education, including pre-and post survey was administered to participants.

Information on water resources and importance of water in order to live life in accordance with their level are given such as the introduction issues for each group. Later in the training, groups were guided on specific issues. Within the scope of the EU Water Framework Directive in all groups were informed about the legislation. Training program, with a particular emphasis on the use of water-saving issues from both impressions, the feedback received from the participants and the need to project the results of the survey is considered to be an indicator reached its goal.

Evaluation of the results of the survey questions;

- Environmental awareness,
- Contribution of education to environmental consciousness,
- Assessment of the contribution of education to ensure that water savings are grouped into topic.

Questions contained in surveys;

- Evaluation of the contribution of education to raise awareness of environmental questions are given below:

20. Which of the following comes from the flowing water in your homes?

- ☐ Underground water
- ☐ Dam
- ☐ Well
- ☐ I do not know

22. Do you have Çine household domestic wastewater treatment plant?

- ☐ Yes
- ☐ No
- ☐ I do not know

23. Homes flowing water fountains...

- ☐ comes directly from the source
- ☐ is given chlorinated
- ☐ I do not know

- Evaluation of the contribution of education to raise consciousness of environmental questions is given below.

11. Which of the following provide water we drink and use?

- ☐ Ground-water
- ☐ Lake
- ☐ Dam
- ☐ All

6. Is it possible to reuse the water you use at home?

- ☐ Yes
- ☐ No
- ☐ I do not know

4. We use water for the purpose of the following?

- ☐ Drinking
- ☐ Irrigation
- ☐ Energy
- ☐ all

16. What is the most important cause of water pollution in our country?

- ☐ untreated wastewater
- ☐ from gardens and water ways
- ☐ shores garbage dumped
- ☐ urban waste discharge
- ☐ I do not know
- ☐

- Evaluation of the contribution of education to raise water conservation questions is given below.

17. Do not try to keep the show a short time in the shower?

- ☐ Yes
- ☐ No

18. Do you leave the tap open to brushing your teeth?

- ☐ Yes
- ☐ No

21. Running water in the shower to warm up the water...

- ☐ I collect in a bucket for later use
- ☐ Bleed

3.3 Statistical Methods Used in Thesis

3.3.1 Introduction

All analyzes were performed using SPSS 13 software. All tests were 0.05 significance level.

3.3.2 Mc Nemar Test

McNemar's test is a non-parametric test that is used to compare two population proportions that are related or correlated to each other. This test is also used when we analyze a study where subjects are tested before and after time periods. It is applied by a 2×2 contingency table with the dichotomous variable. Given two paired

variables where each variable has exactly two possible outcomes (coded as 0 and 1), the McNemar test can be used to test if there is a statistically significant difference between the probability of a (0,1) pair and the probability of a (1,0) pair. For example, this test is often used for the situation where we are testing for the presence (= 1) or absence (= 0) of something and variable 1 is the state before an experiment and variable 2 is the state after the experiment.

3.3.3 Wilcoxon Signed Rank

The Wilcoxon signed-rank test is the nonparametric test equivalent to the dependent t-test. As the Wilcoxon signed-ranks test does not assume normality in the data, it can be used when this assumption has been violated and the use of the dependent t-test is inappropriate. It is used to compare two sets of scores that come from the same participants. This can occur when we wish to investigate any change in scores from one time point to another, or when individuals are subjected to more than one condition.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Descriptive Statistics

In this study, municipal employees (19 people), farmers (37 people), housewives (89 people) and students (44 people) by a total of 189 people's questionnaires were evaluated before and after training. In addition, 12 headmen before training questionnaires were evaluated and percentages of these groups are provided as Table 4.1.

Table 4.1 Number and percentage of participants to groups

	Frequency	Percent	Valid Percent	Cumulative Percent
Municipal Employees	19	9.5	9.5	9.5
Housewives	89	44.3	44.3	53.7
Students	44	21.9	21.9	75.6
Farmers	37	18.4	18.4	94.0
Headmen	12	6.0	6.0	100.0
	201	100.0	100.0	

Results revealed that the percentage of female participants enrolled to the study were 79.1 % (f:159) and that of male participants was 20.9 % (f: 42) as Table 4.2.

Table 4.2 Number and percentage of participants by gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	159	79.1	79.1	79.1
	Male	42	20.9	20.9	100
	Totally	201	100	100	

As Table 4.3 shows the distribution of participants' age.

Table 4.3 Age distribution and percentages of participants

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 10-20	51	25.4	25.4	25.4
21- 30	42	20.9	20.9	46.3
31-40	70	34.8	34.8	81.1
41-50	32	15.9	15.9	97.0
51-65	6	3.0	3.0	100.0
Totally	201	100.0	100.0	

Level of education participants of this study is classified as elementary school degree, high school degree, college degree. As the results indicate, more than half (70.6 %) of the participants in the study has a elementary school degree, 13.9 % has high school degree, 7.5 % has college degree as Table 4.4.

Table 4.4 Education level and number of participants

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Elementary School	142	70.6	76.8	76.8
High School	28	13.9	15.1	91.9
College	15	7.5	8.1	100.0
Total	185	92.0	100.0	
Missing System	16	8.0		
Total	201	100.0		

4.2 Evaluation of the Contribution of Education on Environmental Awareness

4.2.1 Municipal Employees

A study has been conducted to investigate whether the difference between the levels of environmental awareness training before and after training, the following results were obtained. In terms of levels of environmental awareness is there a difference between before and after training?

Null Hypothesis (H_0): There is no difference between the levels of municipal employees's environmental awareness before and after training.

Alternative Hypothesis (H_1): There is a difference between the levels of municipal employees's environmental awareness before and after training.

Municipal employees were surveyed before and after training, 20, 22 and 23 questions correct answers with 1, wrong answers are evaluated with 0.

19 municipal employees have answered 57 (=19*3) questions under dimension of environmental awareness. As can be seen Table 4.5, 2 of these questions have been given wrong answers both before and after training. 5 of them have been given wrong answers before training, but after training have been answered correctly. 6 of them have been answered correctly before training, but after training wrongly. 44 of them have been answered correctly both before training and after training.

Table 4.5 Municipal employees before/after education level of environmental awareness

Municipal Employees / Before Education Environmental Awareness	Municipal Employees / After Education Environmental Awareness	
	0	1
0	2	5
1	6	44

As it displayed Table 4.6, the exact Sig. value of 1.000 is great than 0.05 significance level ($p > 0.05$). Thus we cannot reject the null hypothesis (H_0) and it means that there is no significant difference between the levels of environmental awareness. Before training, the total number of correct answers was 50, after training, the number has decreased to 49. Training did not give municipal employees a positive result.

Table 4.6 Municipal employees test statistics^b

	Municipal Employees Before & After Education Contribution of Education for Environmental Awareness
N	57
Exact Sig. (2-tailed)	1.000 ^a

a. Binomial distribution used.

McNemar Test

4.2.2 Farmers

A study has been conducted to investigate whether the difference between the levels of environmental awareness training before and after training, the following results were obtained. In terms of levels of environmental awareness is there a difference between before and after training?

H_0 : There is no difference between the levels of farmers's environmental awareness before and after training.

H_1 : There is a difference between the levels of farmers's environmental awareness before and after training.

Farmers were surveyed before and after training, 20, 22 and 23. questions correct answers with 1, wrong answers are evaluated with 0.

37 farmers have answered 111 ($=37*3$) questions under dimension of environmental awareness. As can be seen Table 4.7, 9 of these questions have been given wrong answers both before and after training. 16 of them have been given wrong answers before training, but after training have been answered correctly. 5 of them have been answered correctly before training, but after training wrongly. 81 of them have been answered correctly both before training and after training.

Table 4.7 Farmers before/after education level of environmental awareness

Farmers / Before Education Environmental Awareness	Farmers Employees / After Education Environmental Awareness	
	0	1
0	9	16
1	5	81

As it displayed Table 4.8, the exact Sig. value of 0.027 is above 0.05 significance level ($p < 0.05$) and H_0 hypothesis is rejected. There is significant difference between the levels of environmental awareness of farmers before and after training. Before training, the total number of correct answers was 86, after training, the number rose to 97. Training gave farmers a positive result.

Table 4.8 Farmers test statistics^b

	Farmers Before & After Education Contribution of Education for Environmental Awareness
N	111
Exact Sig. (2-tailed)	.027 ^a

a. Binomial distribution used.

b. McNemar Test

4.2.3 Housewives

A study has been conducted to investigate whether the difference between the levels of environmental awareness training before and after training, the following results were obtained. In terms of levels of environmental awareness is there a difference between before and after training?

Housewives were surveyed before and after training, 20, 22 and 23. questions correct answers with 1, wrong answers are evaluated with 0.

89 housewives have answered 267 (=89*3) questions under dimension of environmental awareness. As can be seen Table 4.9, 3 of these questions have been given wrong answers both before and after training. 55 of them have been given wrong answers before training, but after training have been answered correctly. 23 of them have been answered correctly before training, but after training wrongly. 186 of them have been answered correctly both before training and after training.

Table 4.9 Housewives before/after education level of environmental awareness

Housewives / Before Education Environmental Awareness	Housewives / After Education Environmental Awareness	
	0	1
0	3	55
1	23	186

As it displayed Table 4.10, the exact Sig. value of 0.000 is above 0.05 significance level ($p < 0.05$) and H_0 hypothesis is rejected so there is significant difference between the levels of environmental awareness of housewives before and after training. Before training, the total number of correct answers was 209, after training, the number rose to 241. Training gave housewives a positive result.

Table 4.10 Housewives test statistics^b

	Housewives Before & After Education Contribution of Environmental Awareness
N	267
Chi-Square ^a	12.321
Asymp. Sig.	.000

a. Continuity Corrected

b. McNemar Test

4.2.4 Students

A study has been conducted to investigate whether the difference between the levels of environmental awareness training before and after training, the following results were obtained. In terms of levels of environmental awareness is there a difference between before and after training?

H₀: There is no difference between the levels of students's environmental awareness before and after training.

H₁: There is a difference between the levels of students's environmental awareness before and after training.

Students (44) were surveyed before and after training, 20, 22 and 23. questions correct answers with 1, wrong answers are evaluated with 0.

44 students have answered 132 (=44*3) questions under dimension of environmental awareness. As can be seen Table 4.11, 33 of these questions have been given wrong answers both before and after training. 37 of them have been given wrong answers before training, but after training have been answered correctly. 16 of them have been answered correctly before training, but after training wrongly. 46 of them have been answered correctly both before training and after training.

Table 4.11 Students before/after education level of environmental awareness

Students / Before Education Environmental Awareness	Students / After Education Environmental Awareness	
	0	1
0	33	37
1	16	46

As it displayed Table 4.12, the exact Sig. value of 0.006 is above 0.05 significance level ($p < 0.05$) and H_0 hypothesis is rejected so there is significant difference between the levels of environmental awareness of students before and after training. Before training, the total number of correct answers was 62, after training, the number rose to 83. Training gave students a positive result.

Table 4.12 Students test statistics^b

	Students Before & After Education Contribution of Environmental Awareness
N	132
Chi-Square ^a	7.547
Asymp. Sig.	.006

a. Continuity Corrected

b. McNemar Test

4.3 Evaluation of the Contribution of Education on Environmental Consciousness

4.3.1 Municipal Employees

A study has been conducted to investigate whether the difference between the levels of environmental consciousness training before and after training, the following results were obtained. In terms of levels of environmental consciousness is there a difference between before and after training.

H₀: There is no difference between the levels of municipal employees's environmental consciousness before and after training.

H₁: There is a difference between the levels of municipal employees's environmental consciousness before and after training.

Municipal employees were surveyed before and after training, 4, 6, 11 and 16. questions correct answers with 1, wrong answers are evaluated with 0.

19 municipal employees have answered 76 (=19*4) questions under dimension of environmental consciousness. As can be seen Table 4.13, 13 of these questions have been given wrong answers both before and after training. 17 of them have been given wrong answers before training, but after training have been answered correctly. 12 of them have been answered correctly before training, but after training wrongly. 34 of them have been answered correctly both before training and after training.

Table 4.13 Municipal employees before /after education level of environmental consciousness

Municipal Employees / Before Education Environmental Consciousness	Municipal Employees / After Education Environmental Consciousness	
	0	1
0	13	17
1	12	34

As it displayed Table 4.14, the exact Sig. value of 0.458 is above 0.05 significance level. Thus we cannot reject the null hypothesis (H₀) and it means that there is no significant difference between the levels of environmental consciousness of municipal employees before and after training (P> 0.05).

Table 4.14 Municipal employees test statistics^b

	Municipal Employees Before & After Education Contribution of Environmental Consciousness
N	76
Chi-Square ^a	.552
Asymp. Sig.	.458

a. Continuity Corrected

b. McNemar Test

4.3.2 Farmers

A study has been conducted to investigate whether the difference between the levels of environmental consciousness training before and after training, the following results were obtained. In terms of levels of environmental consciousness is there a difference between before and after training?

H₀: There is no difference between the levels of municipal farmers's environmental consciousness before and after training.

H₁: There is a difference between the levels of municipal farmers's environmental consciousness before and after training.

Farmers were surveyed before and after training, 4, 6, 11 and 16. questions correct answers with 1, wrong answers are evaluated with 0.

37 farmers have answered 148 (=37*4) questions under dimension of environmental consciousness. As can be seen Table 4.15, 21 of these questions have been given wrong answers both before and after training. 29 of them have been given wrong answers before training, but after training have been answered correctly. 12 of them have been answered correctly before training, but after training wrongly. 86 of them have been answered correctly both before training and after training.

Table 4.15 Farmers before/after education level of environmental consciousness

Farmers / Before Education Environmental Consciousness	Farmers / After Education Environmental Consciousness	
	0	1
0	21	29
1	12	86

As it displayed Table 4.16, the exact Sig. value of 0.012 is below 0.05 significance level ($p < 0.05$). H_0 hypothesis is rejected. There is significant difference between the levels environmental consciousness of farmers before and after training. Education has been useful.

Table 4.16 Farmers test statistics^b

	Farmers Before & After Education Contribution of Environmental Consciousness
N	148
Chi-Square ^a	6.244
Asymp. Sig.	.012

a. Continuity Corrected

b. McNemar Test

4.3.3 Housewives

A study has been conducted to investigate whether the difference between the levels of environmental consciousness training before and after training, the following results were obtained. In terms of levels of environmental consciousness is there a difference between before and after training?

H_0 : There is no difference between the levels of housewives's environmental consciousness before and after training.

H₁: There is a difference between the levels of housewives's environmental consciousness before and after training.

Housewives were surveyed before and after training, 4, 6, 11 and 16. questions correct answers with 1, wrong answers are evaluated with 0.

89 housewives have answered 356 (=89*4) questions under dimension of environmental consciousness. As can be seen Table 4.17, 47 of these questions have been given wrong answers both before and after training. 79 of them have been given wrong answers before training, but after training have been answered correctly. 37 of them have been answered correctly before training, but after training wrongly. 193 of them have been answered correctly both before training and after training.

Table 4.17 Housewives before/after education level of environmental consciousness

Housewives / Before Education Environmental Consciousness	Housewives / After Education Environmental Consciousness	
	0	1
0	47	79
1	37	193

As it displayed Table 4.18, the exact Sig. value of 0.000 is below 0.05 significance level ($p < 0.05$). H₀ hypothesis is rejected. There is significant difference between the levels environmental consciousness of housewives before and after training. Education has been useful.

Table 4.18 Housewives test statistics^b

	Housewives Before & After Education Contribution of Environmental Consciousness
N	356
Chi-Square ^a	14,491
Asymp. Sig.	.000

a. Continuity Corrected

b. McNemar Test

4.3.4 Students

A study has been conducted to investigate whether the difference between the levels of environmental consciousness training before and after training, the following results were obtained. In terms of levels of environmental consciousness is there a difference between before and after training?

H₀: There is no difference between the levels of students's environmental consciousness before and after training.

H₁: There is a difference between the levels of students's environmental consciousness before and after training.

Students were surveyed before and after training, 4, 6, 11 and 16. questions correct answers with 1, wrong answers are evaluated with 0.

44 students have answered 176 (=44*4) questions under dimension of environmental consciousness. As can be seen Table 4.19, 23 of these questions have been given wrong answers both before and after training. 54 of them have been given wrong answers before training, but after training have been answered correctly. 11 of them have been answered correctly before training, but after training wrongly. 88 of them have been answered correctly both before training and after training.

Table 4.19 Students before/after education level of environmental consciousness

Students / Before Education Environmental Consciousness	Students / After Education Environmental Consciousness	
	0	1
0	23	54
1	11	88

As it displayed Table 4.20, the exact Sig. value of 0.000 is below 0.05 significance level ($p < 0.05$). H_0 hypothesis is rejected. There is significant difference between the levels environmental consciousness of students before and after training. Education has been useful.

Table 4.20 Students test statistics^b

	Students Before & After Education Contribution of Environmental Consciousness
N	176
Chi-Square ^a	27.138
Asymp. Sig.	.000

a. Continuity Corrected

b. McNemar Test

4.4 Evaluation of the Contribution of Education on Water Conservation

4.4.1 Municipal Employees

A study has been conducted to investigate whether the difference between the levels of water conservation training before and after training, the following results were obtained. In terms of levels of water conservation is there a difference between before and after training?

H₀: There is no difference between the levels of municipal employees's water conservation before and after training.

H₁: There is a difference between the levels of municipal employees's water conservation before and after training.

Municipal employees were surveyed before and after training, 17, 18 and 21. questions correct answers with 1, wrong answers are evaluated with 0.

19 municipal employees have answered 57 (=19*3) questions under dimension of water conservation. As can be seen Table 4.21, 5 of these questions have been given wrong answers both before and after training. 5 of them have been given wrong answers before training, but after training have been answered correctly. 7 of them have been answered correctly before training, but after training wrongly. 40 of them have been answered correctly both before training and after training.

Table 4.21 Municipal employees before /after education level of water conservation

Municipal Employees / Before Education Water Conservation	Municipal Employees / After Education Water Conservation	
	0	1
0	5	5
1	7	40

As it displayed Table 4.22, the exact Sig. value of 0.774 is above 0.05 significance level ($p > 0.05$) Thus we cannot reject the null hypothesis (H₀) and it means that there is no significant difference between the levels water-saving habits of municipal employees before and after training. The contribution of education was not statistically significant.

Table 4.22 Municipal employees test statistics^b

	Municipal employees Before & After Education Contribution of Education for Water Conservation
N	57
Exact Sig. (2-tailed)	.774 ^a

a. Binomial distribution used.

b. McNemar Test

4.4.2 Farmers

A study has been conducted to investigate whether the difference between the levels of water conservation training before and after training, the following results were obtained. In terms of levels of water conservation is there a difference between before and after training?

H₀: There is no difference between the levels of farmers's water conservation before and after training.

H₁: There is a difference between the levels of farmers's water conservation before and after training.

Farmers were surveyed before and after training, 17, 18 and 21. questions correct answers with 1, wrong answers are evaluated with 0.

37 farmers have answered 111 (=37*3) questions under dimension of water conservation. As can be seen Table 4.23, 1 of these questions have been given wrong answers both before and after training. 9 of them have been given wrong answers before training, but after training have been answered correctly. 6 of them have been answered correctly before training, but after training wrongly. 95 of them have been answered correctly both before training and after training.

Table 4.23 Farmers before / after education level of water conservation

Farmers / Before Education Water Conservation	Farmers / After Education Water Conservation	
	0	1
0	1	9
1	6	95

As it displayed Table 4.24, the exact Sig. value of 0.607 is above 0.05 significance level ($p > 0.05$) Thus we cannot reject the null hypothesis (H_0) and it means that there is no significant difference between the levels water-saving habits of farmers before and after training. The contribution of education was not statistically significant.

Table 4.24 Farmers test statistics^b

	Farmers Before & After Education Contribution of Education for Water Conservation
N	111
Exact Sig. (2-tailed)	.607 ^a

a. Binomial distribution used.

b. McNemar Test

4.4.3 Housewives

A study has been conducted to investigate whether the difference between the levels of water conservation training before and after training, the following results were obtained. In terms of levels of water conservation is there a difference between before and after training?

H_0 : There is no difference between the levels of housewives's water conservation before and after training.

H₁: There is a difference between the levels of housewives's water conservation before and after training.

Housewives were surveyed before and after training, 17, 18 and 21. questions correct answers with 1, wrong answers are evaluated with 0.

89 housewives have answered 267 (=89*3) questions under dimension of water conservation. As can be seen Table 4.25, 1 of these questions have been given wrong answers both before and after training. 44 of them have been given wrong answers before training, but after training have been answered correctly. 7 of them have been answered correctly before training, but after training wrongly. 215 of them have been answered correctly both before training and after training.

Table 4.25 Housewives before / after education level of water conservation

Housewives / Before Education Water Conservation	Housewives / After Education Water Conservation	
	0	1
0	1	44
1	7	215

As it displayed Table 4.26, the exact Sig. value of 0.000 is below 0.05 significance level ($p < 0.05$). H₀ hypothesis is rejected. There is significant difference between the levels water-saving habits conservation of housewives before and after training. The contribution of education is statistically significant.

Table 4.26 Housewives test statistics^b

	Housewives Before & After Education Contribution of Education for Water Conservation
N	267
Chi-Square ^a	25.412
Asymp. Sig.	.000

a. Continuity Corrected

b. McNemar Test

4.4.4 Students

A study has been conducted to investigate whether the difference between the levels of water conservation training before and after training, the following results were obtained. In terms of levels of water conservation is there a difference between before and after training?

H₀: There is no difference between the levels of students's water conservation before and after training.

H₁: There is a difference between the levels of students's water conservation before and after training.

44 students were surveyed before and after training, 17, 18 and 21. questions correct answers with 1, wrong answers are evaluated with 0.

44 students have answered 132 (=44*3) questions under dimension of water conservation. As can be seen Table 4.27, 2 of these questions have been given wrong answers both before and after training. 13 of them have been given wrong answers before training, but after training have been answered correctly. 5 of them have been answered correctly before training, but after training wrongly. 112 of them have been answered correctly both before training and after training.

Table 4.27 Students before / after education level of water conservation

Students / Before Education Water Conservation	Students / After Education Water Conservation	
	0	1
0	2	13
1	5	112

As it displayed Table 4.28, the exact Sig. value of 0.096 is above 0.05 significance level ($p > 0.05$). Thus we cannot reject the null hypothesis (H_0) and it means that there is no significant difference between the levels water-saving habits of students before and after training. The contribution of education was not statistically significant.

Table 4.28 Students test statistics^b

	Students Before &After Education Contribution of Education for Water Conservation
N	132
Exact Sig. (2-tailed)	0.96 ^a

a. Binomial distribution used.

b. McNemar Test

4.5 Evaluation of Headmen's Environmental Awareness (Before Training)

We have not the results of the post-training surveys for headmen. So we only consisted a bar graph (Figure 4.5) about environmental awareness.(20, 22, 23. Questions)

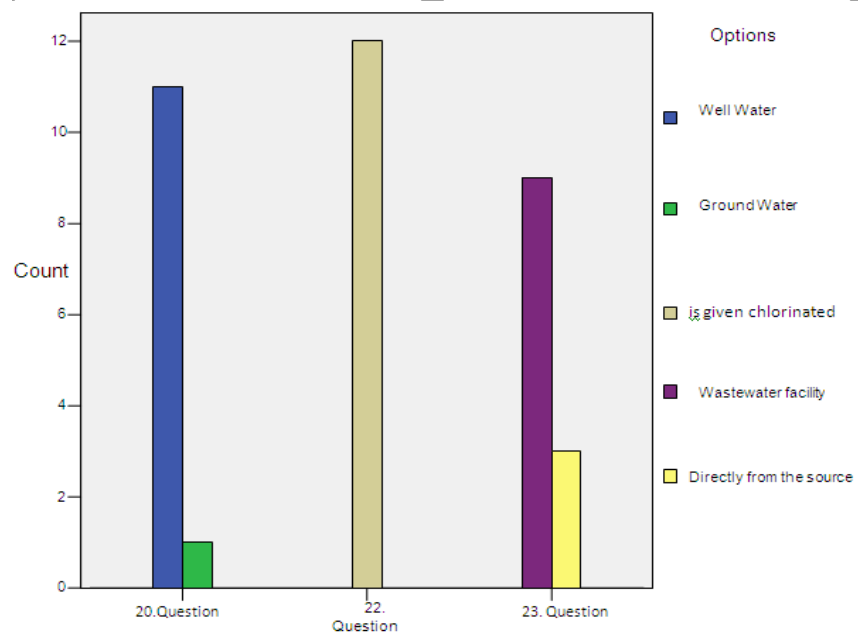


Figure 4.5 Headmen environmental awareness level

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

In this section, the findings of the research conducted on the basis of suggestions have been made in accordance with the results achieved and the results are summarized.

Questionnaires applied to the participants, before the training and after education, environmental awareness, environmental consciousness and water conservation by comparing their answers to questions about how much of the participants were found to be effective.

Housewives, students, farmers were asked questions regarding the above matters, and after education, measured by increase in the case of success than before. About environmental awareness and environmental consciousness true answers to questions the rate seems to have increased after the training. Therefore, training will be given to environmental issues, housewives are willing to say and benefit from the training.

However, questions were asked regarding the above matters and municipal employees after the training education and rise in status, measured by success than before. Municipal employees' right answers to questions before the training and after the training are no significant difference between the proportions.

True answers to questions about environmental awareness and environmental consciousness rate seem to have decreased after the training. However, this does not mean that municipal employees have not got environmental awareness and consciousness. Due to municipal employees work at municipality, we have not observed impact of education on their environmental awareness – consciousness. Also they work at municipality, so we can say that they are conscious.

Asked questions about water-saving habits of housewives and after training, measured by increase in the case of success than before. True answers to questions about water-saving rate seem to have increased after the training.

Similarly, farmers, students and municipal employees were asked questions about on water conservation habits and after education, it was measured that increasing in the case of success than before training. The significant difference was found between the proportion of correct answers given about water-saving before and after the training. After training with the true answers to questions rate decrease about water-saving.

In general, we consider; this study which aimed to establish participants awareness of environmental issues, the causes and detrimental effects of these issues; and to implement an education program covering the subjects and information where their knowledge was lacking or inaccurate; indicated that environmental education for women was beneficial. There has been an increase in the correct answers women (housewives) gave to the questions regarding environmental awareness-consciousness and water conservation habits in the post-test compared to the pre-test. These results indicate that women are interested in training about the environment and they find such training beneficial.

On the other hand, in this study, there has not been an increase in the correct answers municipal employees gave to the questions regarding environmental awareness-consciousness and water conservation habits in the post-test compared to the pre-test.

However, there has been an increase in the correct answers students and farmers gave to the questions regarding environmental awareness-consciousness in the post-test compared to the pre-test. Besides that, there has been no increase in the correct answers students and farmers gave to the questions regarding water conservation habits in the post-test compared to the pre-test.

Based on these results, the following recommendations can be made:

Environmental education should not be expected from formal education institutions only. Formal education institutions also have a role in training all of the public. Public training centers established in several districts can be used to this end. For instance, educational sessions might be held, training events such as panels, seminars, etc., can be promoted in these facilities. Beside formal and informal education institutions, various women's organizations and non-governmental organizations should support environmental education, and radio and television stations must place more emphasis on environmental education. Such programs should be predominantly focused on water, air, soil, noise pollution, wastes and use of recyclable materials.

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APPENDICES

DÜNYAMIZ İÇİN ÇİNE'DEN ADIMLAR PROJESİ SU YÖNETİMİ ANKETİ

BELEDİYE ÇALIŞANLARI

Cinsiyet: ☐ Bayan

☒ Bay

Yaş:

Eğitim Durumu:

1- Çevresel problemlerle ne kadar ilgilisiniz?

☐ çok fazla ☒ yeterli derecede ☐ biraz ☐ fikrim yok

2- Çevre problemleri hakkında bilginiz var mı?

☐ çok fazla ☐ yeterli derecede ☒ biraz ☐ fikrim yok

3- Su yenilenebilir doğal bir kaynak mıdır?

☐ evet ☐ hayır ☐ bilmiyorum

4- Suyu aşağıdakilerden hangi amaç için kullanırsınız?

☐ içme ☐ kullanma ☐ sulama ☐ enerji ☒ hepsi

5- Günde ne kadar su içiyorsunuz?

☐ 0.5 litre ☐ 1 litre ☒ 2 litre ☐ 3 litre

6- Evlerde kullandığınız suyun tekrar kullanılabilmesi mümkün mü?

☒ evet ☐ hayır ☐ bilmiyorum

7- Sağlıklı içme suyu kalitesi hakkında bilginiz var mı?

☒ evet ☐ biraz ☐ hayır

8- Su tasarrufu konusunda yapılabilecekler ile ilgileniyor musunuz?

☒ evet ☐ biraz ☐ hayır

9- Anne-babanızın çevresel problemlere ilgisi hakkında ne düşünüyorsunuz?

☒ çok ilgili ☐ yeterli derecede ilgili ☐ biraz ilgili ☐ ilgisiz ☐ kararsızım

10- Anne-babanız çevresel korumaya yönelik davranışlarda ne kadar aktif ?

☒ çok aktif ☐ az aktif ☐ aktif değil ☐ kararsızım

11- İçtiğimiz ve kullandığımız suları aşağıdakilerden hangisinden sağlarsınız?

☒ yeraltı suyu ☐ göl ☐ baraj ☐ hepsi

12- Bitkilerin ve hayvanların da insanlar gibi hayatta kalma hakkı vardır..Sözü sizce

☒ doğru ☐ yanlış ☐ bilmiyorum

13- İnsan davranışındaki değişimler çevresel sorunların çözümünde önemli rol oynayacaktır..

Sözü sizce...

☒ doğru ☐ yanlış ☐ bilmiyorum

14- Çevresel sorunların farkında olmak herkes için çok önemlidir...Sözü sizce...

☒ doğru ☐ yanlış ☐ bilmiyorum

15- Aşağıdakilerden hangisi sizin düşüncenize daha yakındır?

- ☒ çevre günümüzde insanlığın karşılaştığı birkaç önemli problemden birisidir.
☐ çevre önemli bir problemdir. Ancak, çevreden daha önemli başka problemler vardır.
☐ çevre önemli bir problem değildir.
☐ çevre bir sorun değildir.

16- Ülkemizde suların **en önemli** kirlilik sebebi nedir?

- ☒ arıtılmamış atıksular
☐ bahçelerden ve yollardan gelen sular
☐ sahillere atılmış çöpler
☐ şehir atıklarının boşaltılması
☐ bilmiyorum

17- Duş alırken zamanı kısa tutmaya özen gösteriyor musunuz?

- ☒ evet ☐ hayır

18- Dışlerinizi fırçalarken çesmeyi açık bırakıyor musunuz?

- ☐ evet ☒ hayır

19- Evinizde su tasarrufu yapan duş başlığı kullanıyor musunuz?

- ☒ evet ☐ hayır ☐ bilmiyorum

20- Evlerinizde akan su aşağıdakilerden hangisinden geliyor?

- ☒ yeraltısuyundan ☐ barajdan ☐ kuyumuzdan ☐ bilmiyorum

21- Duş alırken su ısıncaya kadar akan suyu...

- ☒ sonra kullanmak üzere bir kovada biriktirim ☐ akıtırım

22- Çine'de evsel atıksu arıtma tesisi var mı?

- ☐ evet ☐ hayır ☐ bilmiyorum

23- Evlerinizde çeşmelerden akan su

- ☐ doğrudan kaynaktan gelir ☒ klorlanarak verilir ☐ bilmiyorum

24- Su olmadan yaşayabilir miyiz?

- ☐ evet ☒ hayır ☐ bilmiyorum

25- Suyun içeriğinde aşağıdakilerden hangisi vardır?

- ☐ oksijen ☐ hidrojen ☒ hepsi

26- Yeraltısuyu ve baraj göletlerinin suları fiziksel ve kimyasal olarak birbirinden farklı özelliktedir.

- ☒ doğru ☐ yanlış ☐ bilmiyorum

27- Farklı bölgelerde yaşayan çeşitli tipte hayvan ve bitkiler vardır. Aşağıdakilerden hangisi bu cümleyi anlatıyor.

- ☒ çeşitlilik ☐ biyolojik çeşitlilik ☐ sosyoekonomik ☐ evrim ☐ bilmiyorum

28- Aşağıdaki cümleler insan ve çevre arasındaki ilişkiyi yansıtmaktadır.

	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
İnsan yaşamını destekleyen dünyanın kapasitesini tüketmek tizereyiz.	☒	☐	☐	☐	☐
Dünyada herkes için yeterli derecede kaynak var. Problem bu kaynaklardan nasıl yararlanacağımızı öğrenmektir.	☐	☐	☐	☒	☐
Eğer herşey şimdiki gibi devam ederse, kısa sürede daha büyük çevresel felaketlerle karşı karşıya geleceğiz.	☒	☐	☐	☐	☐

29- Aşağıdaki cümleler için lütfen sadece bir tane seçim yapın.

	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
Nesli tükenmiş/tükenmekte olan türler için özel alanlar düzenlenmelidir.	☐	☐	☐	☐	☒
Çevresel sorunların farkında olmak herkes için çok önemlidir.	☐	☐	☐	☐	☒
Sanırım herkes çevresel sorunların çözümü için tek tek sorumludur.	☐	☐	☐	☐	☒
Teknolojik gelişmeler çevre için hem avantaj hem de dezavantaja sahiptir.	☐	☐	☐	☐	☒
Bilim ve teknoloji çevresel sorunların çözümünde çok önemlidir.	☐	☐	☐	☐	☒
İnsan davranışındaki değişimler çevresel sorunların çözümünde önemli rol oynayacaktır.	☐	☐	☐	☐	☒

30 - Su ile bulaşan hastalıklar hakkında bilginiz var mı?

☒ evet ☐ hayır ☐ bilmiyorum

31 -. Şebekeden akan suyu içmesuyu amaçlı olarak kullanıyor musunuz? Cevabınız hayır ise nedenini kısaca yazın lütfen.

☒ evet ☐ hayır

Neden:.....

32 - Sorumluluk alanınızda su kirliliği problemi var mı?

☐ evet ☒ hayır ☐ bilmiyorum

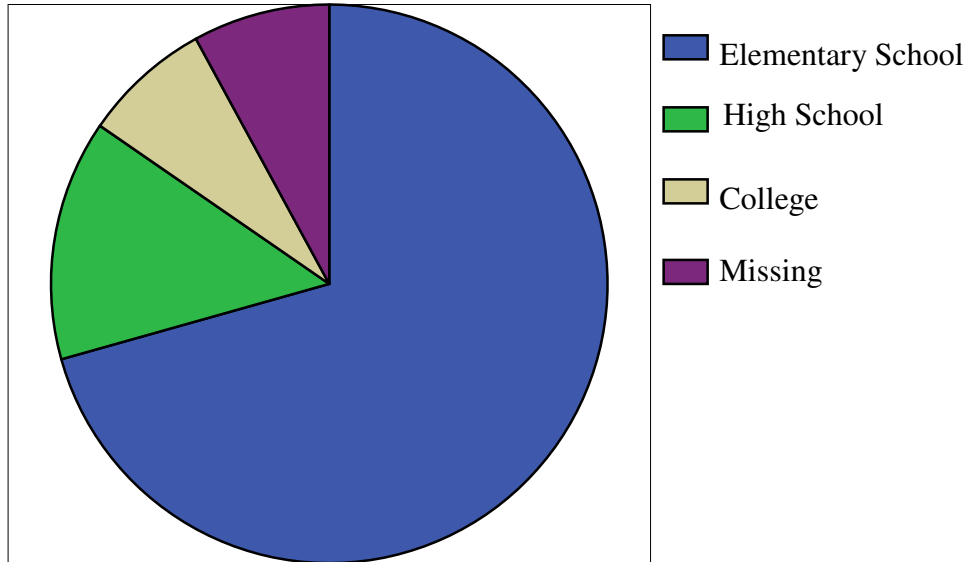
33- Suyla ilgili hangi şikayeti daha fazla alıyorsunuz?

☐ su kesintisi ☒ su kirliliği ☐ klorlama sorunu ☐ su fiyatı

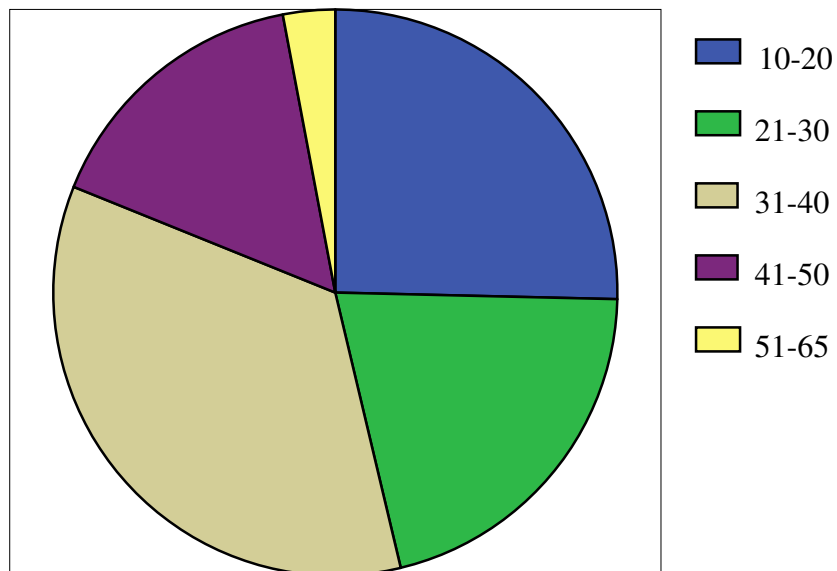
☐ diğer (lütfen yazın).....

34- Su ile ilgili ilave etmek istediğiniz birşey var ise lütfen yazınız.

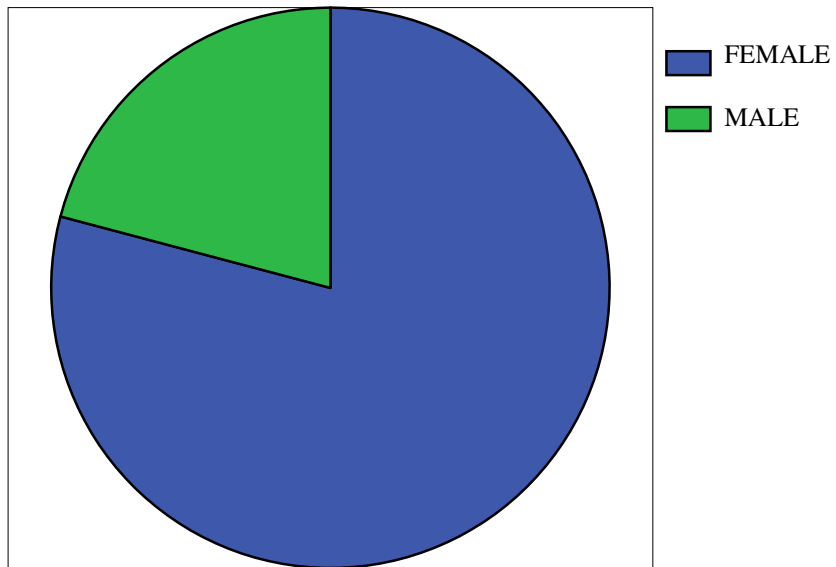
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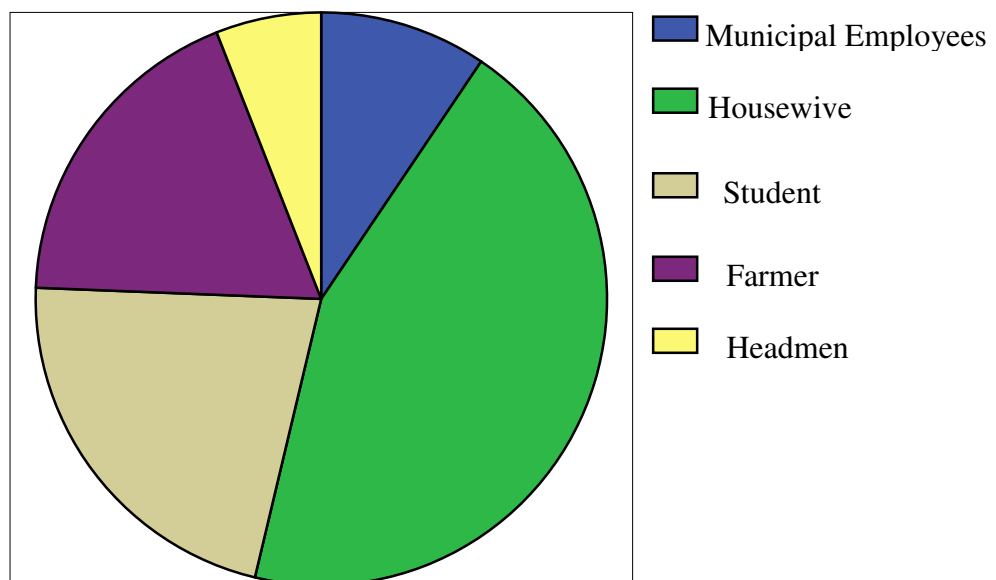
Education level distribution of participants



Age distribution of participants



Gender distribution of participants



distribution of participants