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TITLE: Antalya'da (Türkiye) Çevresel Bilinç Düzeyi ve Sosyo-Ekonomik Özelliklerin Çevresel Bilinç Üzerine Etkileri

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PAGES: 167-177

ORIGINAL PDF URL: <https://dergipark.org.tr/tr/download/article-file/18076>

## ENVIRONMENTAL AWARENESS LEVEL IN ANTALYA CITY (TURKEY) AND IT'S RELATIONS WITH SOCIO-ECONOMIC CHARACTERISTICS

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*Accepted 31 January 2008*

### Abstract

Environmental awareness is the understanding of the importance of that the destruction of the environment must be avoided and the sustainable use of the environment need to be maintained. Socio-economic characteristics of the individuals put greater effect on environmental awareness having intellectual, emotional, behavioural dimensions. Improving of the preventive measures towards environmental problems is only possible by increasing the level of environmental awareness in the coming years which is crucial for the protection and sustainable use of natural resources. With this study indication of environmental awareness level of people and the effects of socio-economic characteristics on environmental awareness in Antalya, the most attractive tourism centre in Turkey was aimed. Using a standard questionnaire format, 512 of inhabitants those living within the urban fringe of Antalya city were questioned via face to face interviews. Study results indicated that environmental awareness level of people in Antalya city was “high” in 75.8 %, “medium” in 22.5 % and “very high” in 1.8 % and the socio-economic characteristics were considerably effective on environmental awareness levels.

**Keywords:** Environmental Awareness, Environmental Problems, Socio-Economic Characteristics, Antalya, Turkey.

### Antalya’da (Türkiye) Çevresel Bilinç Düzeyi ve Sosyo-Ekonomik Özelliklerin Çevresel Bilinç Üzerine Etkileri

### Özet

Çevre bilinci çevreye zarar verilmemesi ve onun sürdürülebilir kullanımının önemini kavramadır. Bireylerin sosyo-ekonomik özellikleri düşünsel, duygusal ve davranışsal boyutları olan çevre bilinci üzerine etkilidir. Çevre sorunlarına karşı alınacak önlemlerin geliştirilmesi ve çevre bilinci düzeyinin gelecek yıllarda yükseltilmesi mümkün olacaktır. Çevre bilincinin yükseltilmesi doğal kaynakların sürdürülebilir kullanımı ve çevre bileşenlerinin korunması açısından önemlidir. Türkiye’nin en önemli turizm merkezi olan Antalya/Türkiye’de yürütülen bu çalışma ile bireylerin çevre sorunları konusundaki bilinç düzeylerinin ve sosyo-ekonomik özelliklerin çevre bilinci üzerine etkilerinin belirlenmesi amaçlanmıştır. Araştırma standart formlarla yerinde anket yöntemi kullanılmıştır. Antalya kentsel yerleşim alanında yaşayan 512 kişiye karşılıklı görüşme yolu ile anket uygulanmıştır. Sonuç olarak Antalya’da yaşayanların % 75.8’inde çevresel bilinç düzeyinin “fazla”, % 22.5’inde “orta” ve % 1.8’inde “çok fazla” olduğu ve sosyo-ekonomik özellikleri çevresel bilinçleri üzerinde etkili olduğu saptanmıştır.

**Anahtar Kelimeler:** Çevre Bilinci, Çevre Sorunları, Sosyo-ekonomik Özellikler, Antalya, Türkiye.

## 1. Introduction

The understanding of vital disturbance of environment problems has been a critical concern since they reached greater damaging level that threatening natural life and humankind. Consequently discussions about solving out those problems ranging from water pollution to erosion, climate change on integrated and scientific bases became inevitable (IUCN/UNEP/WWF, 1991; Keating, 1993; Brown et. al., 1993; World

Commission on Environment and Development, 1987). Hereby in order to provide public participation in the process of the resolution of the problems it is important to indicate the level of environmental awareness which is a fundamental starting point.

Having intellectual, emotional, behavioral dimensions “environmental awareness” consists of a range of decisions,

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principles, comments about the environment, and transforming of those perceptions into behavior and all the related feelings. It refers to the understanding that the destruction of the environment must be avoided and the sustainable use of the environment needs to be guaranteed. Process of environmental awareness is not certainly that of simple starting with the interaction of man and environment and lasting for lifetime learning on parallel to personal maturation and been effected by the complex of many factors where people live in (Türküm, 2005; Mansuroğlu, 2000; Mansuroğlu ve Yücel, 2001; Yücel et al., 2003).

Socio-economic characteristic have a major role on environmental awareness level. There are some people that have the knowledge about the environment but not really reflecting their knowledge into behavior or people that are worried about the environmental pollution but not expressing attitudes themselves towards the resource protection. From this point of view increasing of environmental awareness of people having different character and perspectives is admittedly crucial (Özdemir, 1988; EU, 1990; Yücel, 1994; Daştan, 1999; Akış, 2000; Özçatalbaş, 2000; Subarmadi et al., 2001; BMU, 2002; Çalışkan, 2002; Kavruk, 2002; Rose and Bridgewater, 2003; Şama, 2003; Yücel et al., 2003; Bogner, 2004; Özdemir et al., 2004; Selvi and Selvi, 2004; Talay et al., 2004; Kimberley, 2005; Özmen et al., 2005).

In order to start accurate and elementary education programmes to improve environmental awareness there is an urgent need for defining the actual awareness level. The aim of this study is to indicate the environmental awareness level of people in Antalya. The city itself is the most attractive tourism centre in Turkey, therefore indication of people's awareness on environmental problems, developing and taking necessary measures and increasing awareness level would have a substantial contribution in improving environmental quality. Increasing level of environmental awareness would provide the better understanding of environmental problems within a conceptual sum of causes-results.

Consequently people from different background and class of the community would take part actively in the protection of the environment and sustainable use of natural resources. More briefly increasing environmental awareness will encourage attitudes towards environmental protection in a positive way and this in return will extend the number of people that responsible to the environment. However there is limited scientific information carried out on indicating environmental awareness available on national and international level. Therefore this study is important to fulfill the gap in scientific literature on environmental awareness and practically to support socially and environmentally effective and targeted initiatives to raise public awareness of the pressing environmental issues and problems. We expect that the study results will be useful tool on how to improve present status of environmental awareness.

## **2. Material and Method**

### *1.1. Material*

Research material covers Antalya City. Locating on the southern Turkey, Antalya is the most outstanding and important tourism centre of the country having fastest population growth with 714 129 inhabitants. Main research material was:

- Inhabitants living in urban periphery of Antalya City
- Interview guides used in indicating environmental awareness
- Literatures related to the study

Data analysis and interpretations was carried out using the SPSS 13.0 computer-aided program.

### *2. 2. Method*

The study was carried out in 2005 and 2006 to assess the status of environmental awareness of people at Antalya city, Turkey. The main objectives of the study were

- Indicating size of the sample population,
- Selecting interview method,

- Design of the questionnaire,
- Pre-testing and revision of interviews,
- Data collecting, and
- Analysis and interpretation of data.

#### Indicating size of the sample population

Number of 400 people was selected according to the sampling size for the population over 100 000 justified by Arkin and Colton with 5 % error efficiency (Pulido, 1972). In sampling this number was represented with randomly selected 512 people in total among population living Antalya city centre, dividing 250 people in Muratpaşa, 62 people in Konyaaltı and 200 people in Kepez sub-municipalities.

#### Selecting interview method

Due to faster and reliable results, face to face interviews were preferred in the study instead of standard data forms.

#### Design of the questionnaire

- environmental awareness
- socio-economic character.

For the determination of “environmental awareness” 10 main questions were asked to samples. These questions were undertaken to assess the place of environmental issues stand within overall socio-economic problems and the level of importance that valued for environment in Turkey and Antalya. Furthermore major sources polluting environment, reaction that nature puts towards environmental problems, need for environmental protection, scenarios in case of overexploitation of environment, combating with the pollution and perception of waste paper and glass collection containers were also determined.

On the “Socio-economic Characteristic”, relation between the factors of gender, age, profession, education that effecting socio-economic characteristics was studied.

#### Pre-testing and revision of interviews

Interview forms were develop in co-operation with experts working on environmental issues and interviews and evaluated under the major processes of

content, construction, interpretation and evaluation.

Pre-testing was carried out by the first face to face interviews with randomly selected 20 inhabitants living in urban periphery of Antalya City.

#### Data collecting

According to population percentage of Muratpaşa, Konyaaltı and Kepez sub-municipalities within the great metropolitan of Antalya City, number of individuals were selected randomly for the interviews.

#### Analysis and interpretation of data

The questioner form covers two main chapter; environmental awareness and socio-economic character. For the determination of environmental awareness level a scaling system was developed for the 1.st chapter of the questioner with 10 questions where question types were quiet indicative.

*Building up scaling system:* Indicating a scaling system was indicative in the selection of question types.

*Equivalent weighted points:* Because evaluation of questions as different scaling points there was a need to take equivalent weighted into account which was delivered by estimating % maximum value of each question. Calculated point of % was accepted as to be equivalent weighted points- of each question. For example equivalent weighted point of an individual having 56 points from a question with total point of 80 was  $(56/80) \times 100 = 70$ .

#### *Classifying Environmental Awareness*

*Values:* For each individual “**Environmental Awareness Value**” was found out by taking mean arithmetic of equivalent weighted points. Relatively “**Environmental Awareness Level**” was indicated in 5-point likert scale as follows (Yücel et al., 2003);

85-100 → Very high - individuals or groups having **greater** environmental awareness

70-84 → High - individuals or groups having **good** environmental awareness

50-69 → Moderate - individuals or groups having **moderate** environmental awareness

30-49 → Low - individuals or groups having **poor** environmental awareness

0-29 → Very low- individuals or groups having **very poor** environmental awareness

Carrying out crosswise comparison by using SPSS 13.0 software programme, environmental awareness level with the factors of gender, age, profession, education that effecting socio-economic characteristics were studied.

### 3. Results

#### 3.1. Evaluation of Questioners

##### 3.1.1. Key sources in environmental pollution

Samples were asked to arrange the most crucial source of air, water, soil, noise

and radioactive pollution. According to the place of living they responded the primary source for air, water, soil, noise and radioactive pollution as the nuclear reactors for radioactive pollution. In the evaluation of equivalent weighted points transport for air pollution, settlements for water, soil and noise pollution, nuclear reactors for radioactive pollution were pointed out as main sources (Table 1).

##### 3.1.2. Reaction of Nature to Environmental Problems

Reaction of nature to environmental problems was found “tolerant” in 59.0 % which is followed sensitive in 21.7 %, can’t be estimated in 12.3 % and resistant in 0.7 % (Figure 1).

Table 1 Rating of environmental pollution sources with their degree of importance (%).

<b>Source of Air Pollution</b>	1.Degree	2. Degree	3. Degree	Equivalent weighted
Settlement	88.1	0.0	0.2	29.4
Industry	9.8	71.9	0.0	27.1
Transport	2.0	24.6	63.5	30.1
Agriculture	0.2	2.7	10.5	4.5
Natural phenomenon	0.0	0.8	21.9	7.5
Others	0.0	0.0	3.9	1.4
<b>Source of Water Pollution</b>				
Settlement	73.8	0.0	0.0	24.6
Industry	21.5	44.3	0.0	22.0
Marine transport	3.9	16.6	6.4	9.0
Agriculture	0.6	37.1	23.4	20.4
Waste dumping	0.2	2.0	66.0	22.7
Others	0.0	0.0	4.1	1.3
<b>Source of Soil Pollution</b>				
Settlement	87.1	0.0	0.4	29.2
Transport	9.0	33.0	0.0	14.0
Industry	3.5	60.2	14.1	25.9
Agriculture	0.4	6.8	75.6	26.6
Others	0.0	0.0	10.0	3.3
<b>Source of Noise Pollution</b>				
Settlement	59.6	0.0	0.2	19.9
Transport	39.1	52.1	0.0	30.4
Industry	1.2	20.5	11.5	11.1
Building construction	0.2	25.4	36.5	20.7
Commercial activities	0.0	2.0	45.9	15.9
Others	0.0	0.0	5.9	2.0
<b>Source of Radioactive Pollution</b>				
Nuclear reactors	91.8	0.0	0.0	30.6
Nuclear testing	7.2	78.7	0.0	28.5
Hospitals	1.0	19.1	51.6	24.0
Natural phenomenon	0.0	2.1	33.0	11.7
Others	0.0	0.0	15.4	5.2

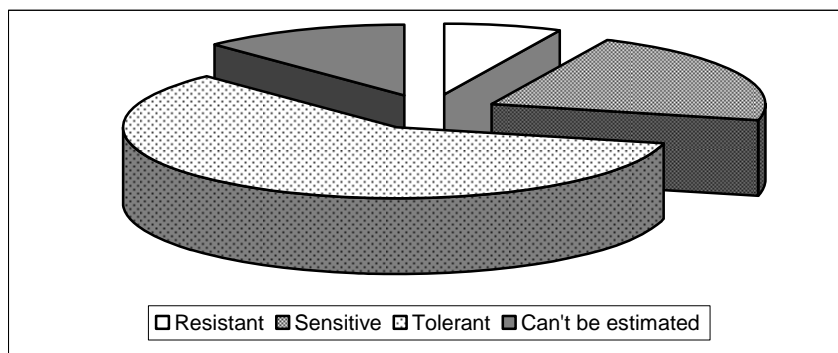
### 3.1.3. Necessity of the Nature and Environmental Protection

Responses of the samples indicating necessity of the nature and environmental protection as showing their approval on 6 different standpoints as given below were analysed.

- pollution of natural resources
- ownership of natural resources
- human impact on environment
- relation between natural resources and economy

- socio-economic problems and priority among environmental problems
- handing a sustainable environment on to future generations

Consequently 95.5 % of the samples absolutely agreed on 6. standpoint where 65.6 % on 3. standpoint, 63.9 % on 2. Standpoint besides 75.4 % definitely disagreed on 1. standpoint and 71.3 % on 4. standpoint. Only 40.0 % responded that they maybe agree on 5. standpoint (Table 2).



(Resistant - nature is able to regenerate itself. It can overcome negative effects in all cases and can return back to beginning, Sensitive - nature is very sensitive to every kind of negative effects. Even a minor effect can cause to degradation of natural stability, Tolerant - nature can tolerate the effects in certain limits but can't control the effects after a certain point, Can't be estimated - effects can't be estimated beforehand).

Figure 1 Rating of reaction of nature to environmental problems (%).

Table 2 Rating of samples' agreement on necessity of the nature and environmental protection (%).

Standpoints	Absolute ly agree	Maybe	Definitely disagree	Total
1. Natural resources are the common heritage of humanity. Therefore companies that using and polluting natural resources can employ resources only with the idea of "polluter pays" in return covering damage	15.0	9.6	75.4	100.0
2. Natural resources are the common heritage of humanity. Therefore use of the resources must be collective, neither sold nor hired.	63.9	27.0	9.2	100.0
3. Nature and environment can continue their stability without human interference	65.6	26.2	8.2	100.0
4. When economic benefits from natural resources are concerned priority is the use of resources which can be followed by resource protection in the second phase	9.8	18.9	71.3	100.0
5. Countries may have socio-economic problems more crucial than environmental problems. In this case solving our socio-economic problems must be given priority	37.9	40.0	22.1	100.0
6. There should be equality between generations regarding to sustainable development principles. Therefore an unspoilt and protected environment must be hand on to future generations	95.5	1.6	2.9	100.0

#### 3.1.4. Scenarios in Case of Heavy Environmental Pollution

Here state of the samples' approval that put on 8 different scenarios in case of heavy environmental pollution was detected.

Rating of samples' approval on scenarios in case of heavy environmental pollution and exploitation of natural resources is given in Table 3. Accordingly approval on all scenarios appeared to be "high" where 47.9 % of the samples agreed on 8. scenario, 6. scenario has very high and high, 5. scenario has mean and finally 1. scenario has the highest approval rate (Table 3).

#### 3.1.5. Measures that Can Be Taken for Environmental Problems

Amongst the measures for environmental problems "increasing environmental awareness by education"

came on the 1. level while "encouragement of the use of recycled material in industry" on the 2. level, "economic initiatives and regulations" on the 3. level, only "economic initiatives" on the 4. level and lastly "advanced technology" came on the 5. level. With regard to equivalent weighted points "increasing environmental awareness by education", "regulations" and "encouragement of the use of recycled material in industry" took the first top three levels (Table 4).

#### 3.1.6. Perception about Waste Paper and Glass Collection Containers

The very first perception of waste paper and glass collection containers by the respondents was "gaining raw material" in 50.0 % that followed by "protection of the environment" in 31.6 % and "economic reason" in 12.3 %. 2.3 % of the respondents expressed that containers have no value

Table 3. Rating of samples' approval on scenarios in case of heavy environmental pollution (%).

Scenarios	Very low	Low	Mean	High	Very high	Total
1. Degree of climate change and global warming will increase	1.6	3.9	21.3	44.3	28.9	100.0
2. Poverty and famine will increase	2.3	3.9	25.6	45.9	22.3	100.0
3. Petrol fuels will decrease and other fuels will be used in vehicles	2.5	3.9	31.1	41.6	20.9	100.0
4. Good quality of drinking water will decrease and become very expensive	2.5	4.9	22.5	41.8	28.3	100.0
5. Big disagreements will occur even on the scale of wars for water resources and reserves	3.5	6.6	30.7	34.0	25.2	100.0
6. Ecological farming will gain higher priority	5.3	9.4	25.2	39.1	21.1	100.0
7. Coastal settlements will be floated due to melting glaciers in polar	4.3	8.4	22.5	39.3	25.6	100.0
8. Desertification will accelerate	2.1	4.5	18.8	47.9	26.8	100.0

Table 4. Rating of Measures for Environmental Problems (%).

Measures	1. Level	2. Level	3. Level	4. Level	5. Level	equivalent weighted points
Advanced technology	4.7	9.2	16.0	26.6	43.8	13.7
Increasing environmental awareness by education	69.5	18.8	8.6	2.7	0.6	30.3
Regulations	18.9	27.7	27.1	18.0	8.2	22.1
Encouragement of the use of recycled material in industry	2.9	28.7	21.1	23.2	23.6	17.5
Economic initiatives (fines, taxation, encouragements, credits)	3.9	15.6	27.1	29.5	23.8	16.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

while 1.4 % pointed out that containers could be a tool for recycling and saving but as an indication of the state of development they are not enough (Figure 2).

### 3.1.7. Socio-economic Characteristic

28.5 % of the respondent was male and 28.5 % was female of which 57.4 % was married and 42.6 % was single. Socio-economic characteristics of the respondents as age, education, profession and income were given in Table 5.

### 3.2. Indication of Environmental Awareness Level

According to scaling system mentioned in the chapter of method “Environmental Awareness Value” was indicated. With regard to different socio-economic characteristics mean, maximum and minimum environmental awareness values “Environmental Awareness Level” was found out and given in Table 6.

“Environmental Awareness Value” was scored to be mean in females,

employees, age group of 31-40, people with 560-1120 EUR monthly income and university graduates where it was indicated to be maximum in females, employees, unemployed, age group of 41-50, people with 560-1120 EUR monthly income and minimum in males, private sector, age group of 25-30, people with less than 280 EUR monthly income and secondary school graduates (Table 6).

Environmental awareness level of the respondents was “high” in 75.8 %, moderate in 22.1 % and very high in 1.8 %.

In respect to environmental awareness, level of females is higher than male where 81.5 % of female respondents was found to have high level of environmental awareness and 0.7 % of very high this was flowingly only 73.5 % and 2.2 % with the male respondents (Table 6).

Environmental awareness level of the respondents with primary school education determined as “moderate” and “high” with all other education degrees. Number of “one” illiterate respondent was ignored.

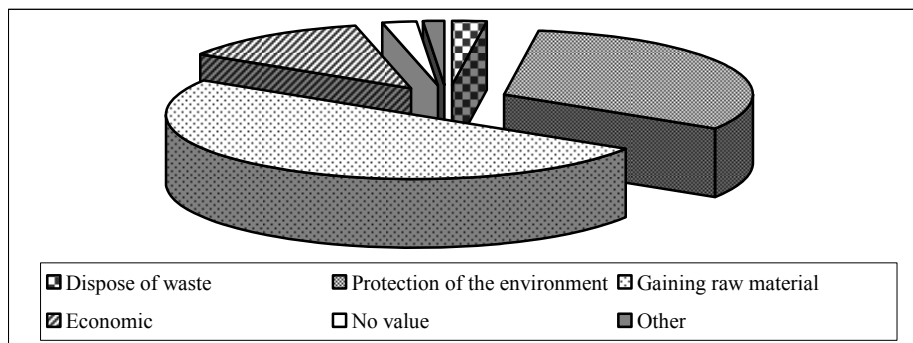


Figure 2. Rating of perception of waste paper and glass collection containers (%).

Table 5. Socio-economic characteristics of the respondents (%).

Age groups	(%)	Education	(%)	Profession	(%)	Income (EURO)	(%)
18-24	24.8	Primary school	7.4	Private sector	21.9	Less than 280	13.5
25-30	18.9	Secondary school	10.7	Student	19.3	280 - 560	33.6
31-40	23.2	High school	41.8	Tradesman	15.8	560 - 1120	41.8
41-50	18.9	High school (University)	8.6	Employee	15.6	1120 - 1680	7.6
51-60	10.9	University	26.6	Retired	12.1	1680 - 2240	2.7
61 and older	3.1	Post-graduate	4.5	Labourer	8.2	More than 2240	0.8
		Literate	0.2	Unemployed	6.8		
		Illiterate	0.2	Farmer	0.2		

\* At the time of the questioners were carried out 1EUR=1,780 YTL



Table 6. Environmental awareness value and levels according to social-economic characteristic (n= number of samples).

Criteria		Awareness Value			Awareness Level (%)				
		Mean	Min.	Max.	Very low	Low	Moderate	High	Very high
Gender	Male n=366	74.0	49.9	87.2	0	0	24.3	73.5	2.2
	Female n=146	74.9	58.7	87.8	0	0	22.5	81.5	0.7
Profession	Private sector n=112	74.7	49.9	87.2	0	0	21.4	77.1	2.7
	Student n=99	76.0	61.1	86.5	0	0	13.1	84.8	2.0
	Tradesman n=81	73.6	54.4	84.4	0	0	25.9	74.1	0
	Employee n=80	76.2	58.9	86.9	0	0	10.0	86.3	3.8
	Retired n=62	71.9	55.9	83.3	0	0	40.3	59.7	0
	Labourer n=42	70.8	55.8	80.8	0	0	40.5	59.5	0
	Unemployed n=35	74.0	58.7	87.8	0	0	20.0	77.1	2.9
	Farmer n=1	73.5	-	-	0	0	0	100.0	0
Age	18-24 n=127	75.1	59	86.5	0	0	18.1	79.5	2.4
	25-30 n=97	74.2	49.9	86.9	0	0	3.1	72.2	24.7
	31-40 n=119	75.2	54.4	87.2	0	0	17.6	80.7	1.7
	41-50 n=97	73.0	59.0	87.8	0	0	26.8	72.2	1.0
	51-60 n=56	73.2	55.9	83.5	0	0	28.6	71.4	0
	61 and older n=16	73.2	62.2	81.3	0	0	31.3	68.8	0
Income (EURO)	Less than 280 n=69	73.0	49.9	86.5	0	0	33.3	63.8	2.9
	280 - 560 n=172	73.4	54.4	87.2	0	0	26.2	72.1	1.7
	560 - 1120 n=214	75.3	55.9	87.8	0	0	16.8	81.3	1.9
	1120 - 1680 n=39	74.9	63.5	84.4	0	0	17.9	82.1	0
	1680 - 2240 n=14	75.2	62.9	82.8	0	0	21.4	78.6	0
	More than 2240 n=4	73.4	66.9	80.6	0	0	25.0	75.0	0
Education	Primary school n= 38	68.8	55.7	83.5	0	0	60.5	39.5	0
	Secondary school n= 55	72.3	49.9	82.4	0	0	25.5	74.5	0
	High school n= 214	74.7	60.3	87.8	0	0	20.1	78.0	1.9
	High school (University) n= 44	74.6	58.9	86.4	0	0	20.5	77.3	2.3
	University n= 136	75.8	56.1	86.5	0	0	14.0	84.6	1.5
	Post graduate n= 23	75.1	64.8	86.9	0	0	26.1	65.2	8.7
	Literate n= 1	67.1	-	-	0	0	100.0	0	0
	Illiterate n=1	76.3	-	-	0	0	0	100.0	0
TOTAL n=512		74.3	50	88	0	0	22.5	75.8	1.8

Environmental awareness concentrated on “high” level in all age groups where age group of 31-40 was high in 80.7 % and age group of 61 and older was high again in 68.8 %. On the other hand age group of 25-30 showed the “very high” environmental awareness level with 24.7 % (Table 6).

Again environmental awareness level turned out to be “high” in all income groups as 82.1 % with the monthly income of 1120-1680 EUR and 63.8 % with the monthly income of less than 280 EUR “moderate” level of environmental awareness recorded

as 33.3 % with the monthly income of less than 280 EUR highest and 16.8 % the monthly income of 560-1120 EUR lowest while “very high” environmental awareness level found in the monthly income group of 560-1120 EUR (Table 6).

Whatever the profession of the respondents is level of environmental awareness happened to be “very high”. Passing the number of “one” farmer respondent employees took part in 86.3 %, students in 84.8 %, unemployed in 77.1 %, private sector in 75.9 % and tradesmen in 74.1 % amongst the respondents with “high”

environmental awareness level (Table 6).

## 5. Discussions and Conclusions

Threatening impact of environmental problems on natural resources and human well-being brought the issue top on the agenda. Air, water, soil, and noise pollution, wastes, erosion on the local level and in recent year's climate change, depletion of ozone layer and radioactive pollution which became common concern of mankind lead us that global environmental problems need be solved out by integrated initiatives of all parties. As a result environmental problems and their solutions started to be discussed by all platforms such political and economic area where public participation and their active role in problem solving, issues on environmental awareness, attitudes and perception on the environment gained greater importance (IUCN/UNEP/WWF 1991; Keating, 1993; World Commission on Environment and Development, 1987). Regarding to environmental education and sustainable development initiative in the history "education" takes the priority (Selvi and Selvi, 2004). It is a strongly accepted fact on international platforms that protection of the environment, maintaining basic resources for both human and all living elements, preserving and developing natural and cultural heritage is the true right of the future generations.

Although the acceptance of everyone's right to live in a healthy environment damaging application has still been exaggerated by continuous investments and policies. In this context to increase environmental awareness within the community and to generate individuals with greater environmental concerns first start with the appreciation of the issue.

Within this research aiming at the indication of environmental awareness level of people in Antalya it is found out that environmental awareness of the community is on the "high" level which indicates that people are well aware of the environmental problems. Some other similar studies in Turkey also revealed that people are concerned about the environmental

problems in their regions (Mansuroğlu, 2000; Mansuroğlu and Yücel, 2001; Özçatalbaş, 2000).

Average level of environmental awareness is highest in women, in the age group of 31-40, university graduates, employees and people with monthly income of 560-1120 EUR. Relatively Akış (2000) confirmed that there is strong interrelation between environmental awareness and age, education level, place of living, being inhabitant or emigrant, and gender. Similarly, the studies by Şama (2003), Özdemir et al. (2004) and Özmen et al. (2005) on the university students showed that female students were more conscious about the environment and related issues. Yücel (1994) specified that women and age group of 41-50 amongst inhabitants of Adana were more concerned about present and potential environmental problems than men and all other age groups.

Younger people are more aware of environmental problems with high environmental awareness level. This proves that environmental problems being experienced within recent years both in Turkey and the worldwide have an impact on all people.

Improving education increases the environmental awareness. Exceptionally environmental awareness level dropped down in postgraduates. However environmental awareness is "high" in university graduates. Previous studies of Şama (2003) in Gazi University Faculty of Literature, Özdemir et al. (2004) in Ankara University Faculty of Medicine, Talay et al. (2004) in Ankara University (different Faculties), Özmen et al. (2005) in Celal Bayar University showed that environmental awareness as well perception and attitudes of the university student towards environment were quite inadequate which was directly related with the socio-economic characteristics of the students.

Subarmadi (2001) explains that educated people have knowledge, awareness, appreciation and attitudes on environmental problems. Some other studies put forward the importance and crucial role of education in building up environmental awareness (Özdemir, 1988; Daştan, 1999;

Özçatalbaş, 2000; Çalışkan, 2002; Kavruk, 2002, Rose and Bridgewater, 2003; Selvi and Selvi, 2004; Kimberley, 2005).

Assessing income group, people with monthly income of 560-1120 EUR have the highest average of environmental awareness while it concentrates as “high” in all income groups. But increasing environmental awareness level from the lowest income group goes up to highest with “very high” with income group of monthly 1120-1680 EUR.

According to profession average “environmental awareness” is high in employees. High level of environmental awareness in employees, tradesmen, unemployed, private sector and students showed us that profession is actually not effective on environmental awareness. Besides Yücel (1994) informed that employees are more aware and care about the environmental problems amongst the profession groups in Adana and Özdemir (1988) pointed out those scientists have highest and farmers have lowest environmental concern.

Socio-economic characters of the inhabitants in Antalya have an impact on environmental awareness as indicated by similar previous studies in Turkey (Özdemir, 1988; Yücel, 1994; Akış, 2000; Yücel et al., 2003; Özdemir et al., 2004; Özmen et al., 2005).

In conclusion, it is possible to say that population of Antalya city is young and educated as 66.9 % of the respondents are under the age of 35-40's and 81.5 % has high school education and further. Indicated environmental awareness level as high in 77.7 % and very high proves that Antalya's case being highly depend on tourism with natural environment and agriculture with cleaner production plays greater role on strengthening international relation of the region which in return has a positive effect on the environmental awareness of the population.

There is greater need for improving environmental awareness and environmental consciousness of people in developing countries as Turkey. Therefore initiatives on public awareness rising on the environment must be strongly supported with the

assistance of concerning officials and institutions apart from on-going education work and lead by local administrations integration of the people and environment need to be maintained by taking perception of the inhabitants into account.

#### **Acknowledgements**

This work was supported by the Administration Unit of Scientific Research Projects of Akdeniz University (Project No: 2004.01.0104.006).

#### **References**

- Akış, S., 2000. Kuzey Kıbrıs'ta Çevre Bilinci. Doğu Üniversitesi Dergisi 1. Sayı. İstanbul.
- Brown, L.R., Durning, A., Flavin, C., French, H. , Jacobsen, J., Lowe, M., Postel, S., Renner, M., Starke, L., Weber, P. and Young, J. (1993). Dünyanın Durumu (1993) Worldwatch Enstitüsü Raporu: Sürdürülebilir Bir Yaşama Giden Yolumun Neresindeyiz ? Çev.:Yaman ve Fehiman Köseoğlu, Tema Vakfı Yayınları No:4.
- BMU-Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (2002). Umweltpolitik, Umweltbewusstsein in Deutschland 2002. Ergebnisse Einer Repräsentativen Bevölkerungsumfrage. Umweltbundesamt. Berlin.
- Bogner, F.X., 2004. Environmental Education: One Programme-Two Results? Fresenius Environmental Bulletin PSP Vol:13, No: 9, 814-819.
- Çalışkan, M., 2002. Yetişkinlerde Çevre Duyarlılığını Etkileyen Etmenler: KKTC Lefke Örneği (The Affecting factors to environmental sensitivity of adults: The sample of Turkish Republic of North Cyprus). Ankara Üniversitesi, Eğitim Bilimleri Enstitüsü, Halk Eğitimi ABD, Yüksek Lisans Tezi, 164 s., Ankara.
- Daştan, H., 1999. Çevre Koruma Bilinci Ve Duyarlılığının Oluşumunda Eğitimin Yeri Ve Önemi. Gazi Üniversitesi, Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi, 116 s., Ankara.
- EU-European Union, 1990. Die Umweltpolitik In Der Europäischen Gemeinschaft. EGKS-EWG-EAG, Brussels.
- IUCN/UNEP/WWF, 1991. Caring for the Earth (A Strategy for Sustainable Living). Gland Switzerland, 85 p.
- Kavruk, S.B., 2002. Türkiye'de Çevre Duyarlılığının Artırılmasında Çevre Eğitiminin Rolü Ve Önemi (The Importance and role of environmental education in improving the sensitiveness towards environment in Turkey). Gazi Üniversitesi, Sosyal Bilimler Enstitüsü, Kentleşme ve Çevre Sorunları ABD, Yüksek Lisans Tezi, 207 s., Ankara.

- Keating, M., 1993. Agenda for Change: A Plain Language Version of Agenda 21 and Other Rio Agreements, Centre for Our Common Future, Geveve, Switzerland, 70 p.
- Kimberley, S., 2005. A Description Of Adult Environmental Education Programs In Residential Environmental Education Centers: Their Use Of Experiential Learning Theory And Environmental Citizenship Concepts. Ph.D., University of Idaho, 143 pages.
- Mansuroğlu S.G., 2000. Düzce Ovasında Yaşayanların Sanayileşmeye Yaklaşımlarının Belirlenmesi. Akdeniz Üniversitesi, Ziraat Fakültesi Dergisi ISSN: 1301-2215, 13 (2) 213-222.
- Mansuroğlu, S. and Yücel, M., 2001. Halkın Alan Kullanım Kararlarına Katılımının Gerekliğinin Araştırılması: Düzce Örneği. Akdeniz Üniversitesi, Ziraat Fakültesi Dergisi, 14, 1, s.57-66.
- Özçatalbaş, O., 2000. Kırsal ve Kentsel Alanda Çevre Bilinci ve Gönüllü Kuruluşların Rolü (Adana TEMA Vakfı Örneği). 6-8 Eylül 2000 Türkiye 4. Tarım Ekonomisi Kongresi. Tekirdağ).
- Özdemir, S., 1988. Türkiye’de Toplumsal Değişme ve Çevre Sorunlarına Duyarlılık. Palme Yayıncılık. Büro 86 Ofset Matbaacılık, Ankara.
- Özdemir, O., Yıldız, A., Ocaktan, E. and Sarısen, O., 2004. Tıp Fakültesi Öğrencilerinin Çevre Sorunları Konusundaki Farkındalık Ve Duyarlılıkları. Ankara Üniversitesi Tıp Fakültesi Mecmuası Cilt:57, Sayı:3.
- Özmen, D., Çetinkaya, A. C. and Nehir, S., 2005. Üniversite Öğrencilerinin Çevre Sorunlarına Yönelik Tutumları. TSK Koruyucu Hekimlik Bülteni 4 (6), 330-344.
- Pulido, A., 1972. Estadística y Técnicas de Investigación Social. Ediciones Anaya, Madrid.
- Rose, O.H. and Bridgewater, P., 2003. Environmental Education: A Pillar Of Sustainable Development. New Approaches Needed To Environmental Education And Public Awareness. Prospects Vol. XXXIII, No: 3, 263-272.
- Şama, E., 2003. Öğretmen Adaylarının Çevre Sorunlarına Yönelik Tutumları. Gazi Üniversitesi, Eğitim Fakültesi Dergisi, Cilt: 23, Sayı:2, 99-110.
- Selvi, M. and Selvi, M., 2004. Environmental Education for Sustainable Development. Fresenius Environmental Bulletin PSP Vol:13, No: 9, 900-902.
- Subarmadi, S., Suzuki, S., Kawada, T., Netti, H., Soemantri, S. and Tugawati, A. T., 2001. “A Survey Of Perception, Knowledge, Awareness And Attitude In Regard To Environmental Problems In A Sample Of Two Different Social Groups In Jakarta, Indonesia”, Environment, Development and Sustainability, 3 (2), 169-183. Kluwer Academic.
- Talay, I., Gündüz, S., Akpınar, N., 2004. On The Status Of Environmental Education And Awareness Of Undergraduate Students At Ankara University, Turkey. International Journal of Environment and Pollution 21 (3): 293-308.
- Türküm, S., 2005. Çağdaş Toplumda Çevre Sorunları Ve Çevre Bilinci. www.aof.edu.tr/kitap/IOLTP/1268/unite10.pdf
- World Commission on Environment and Development, 1987. Our Common Future. The Brundtland Report, Oxford University Press, Oxford.
- Yücel, M., 1994. Adana Halkının Çevreye Duyarlılığının Belirlenmesi. Çukurova Üniversitesi Ziraat Fakültesi Dergisi, 25. Kuruluş Özel Sayısı, 121-136, Adana.
- Yücel, M., Uslu, C. and Say, N. P., 2003. Çukurova Üniversitesi Personel ve Öğrencilerinin Çevre Duyarlılıklarının Belirlenmesi. Çukurova Üniversitesi Ziraat Fakültesi Araştırma Projesi Raporu Proje No:BAP – PM 2002-01. Adana.