EFFECTS OF SOCIO-ECONOMIC CHARACTERISTICS ON ENVIRONMENTAL ATTITUDES IN DEVELOPING COUNTRIES: ANTALYA CASE IN TURKEY

Sibel MANSUROĞLU[1,2], Osman KARAGÜZEL[1], Meryem ATİK[1], Pınar KINIKLI[1]

[1]*Akdeniz University, Faculty of Agriculture, Department of Landscape Architecture, 07070 Antalya, TURKEY*

ABSTRACT

With the reflection of environmental problems directly on human life quality, there has been an increase attention in the people's response towards these problems. Defined with the individual and political extend, environmental attitude is regarded as the comprehension of the importance of not damaging environment and using it in sustainable way for the amelioration of environmental problems. Therefore improvement of environmental attitude can motivate active participation of people in restraining environmental problems and can ensure environmental auto-control in the community. The main objectives of the study which was carried out 2005 in Antalya; a) to indicate the level of environmental attitude of individuals towards environmental problems and, b) to examine the relationship between socio-economic characteristics and environmental attitude

Questionnaire based statistical study was used in stead of standardised forms and a face to face survey was conducted with 512 people in urban area. As a result environmental attitude level of inhabitants of Antalya city was found to be "medium" in 5.9%, while "high" in 24.2%, "low" in 18%, "very high" in 3.1% and "very low" in 0.8% and socio-economic characteristics were found to be effective on environmental attitude. Chi-square analyses have revealed that women, people with higher income, people participated in afforestation activities, people having courses on environmental and nature protection and people having membership in environmental non-governmental organisations showed higher level of environmental attitude than other groups.

Key Words: *Environmental Attitudes, Environmental Problems, Socio-Economic Characteristics, Antalya City (Turkey)*

GELİŞMEKTE OLAN ÜLKELERDE SOSYO-EKONOMİK ÖZELLİKLERİN ÇEVRESEL TUTUM ÜZERİNE ETKİLERİ: ANTALYA ÖRNEĞİ

ÖZET

Çevre sorunlarının insan yaşamını doğrudan etkilemeye başlaması ile birlikte bu etkiye karşı insanların tepkilerinde de belirgin bir artış görülmüştür. Çevre sorunlarının engellenmesi için zaman içinde bireysel ve siyasal boyutlarda oluşan, çevresel tutum çevreye zarar verilmemesi ve onun sürdürülebilir bir düzeyde kullanımının önemini kavrama olarak tanımlanmaktadır. Çevresel tutumun geliştirilmesi çevre sorunlarının engellenmesinde tüm insanları aktif hale getirecek, toplumda oto kontrolü sağlayacaktır. Türkiye'nin en önemli turizm merkezi olan Antalya'da 2005 yılında yürütülen bu çalışmanın amaçları; a) bireylerin çevre sorunlarına konusundaki tutum düzeylerinin belirlenmesi ve, b) sosyo-ekonomik özellikler ile çevresel tutum arasındaki ilişkilerin irdelenmesidir. Araştırmada standart formlarla yerinde anket yöntemi kullanılarak, karşılıklı görüşme yolu ile Antalya kentsel yerleşim alanında yaşayanlara 512 kişiye anket uygulanmıştır. Sonuç olarak Antalya'da yaşayanların % 53.9'unun çevresel tutum düzeyinin"orta", % 24.2'sinin "fazla", % 18'inin az, % 3.1'inin "çok fazla", % 0.8'inin çok az olduğu ve sosyo-ekonomik özelliklerin çevresel tutum üzerinde etkili bulunduğu ortaya konulmuştur. Ki-kare analizi sonucunda ise kadınların, yüksek gelir düzeyine sahip olanların, herhangi bir ağaçlandırma faaliyetine katılanların, çevre ve doğa koruma konusunda ders alanların ve çevre ile ilgili herhangi bir kuruluşa üyeliği bulunanların diğer gruplara göre çevresel tutumun daha yüksek olduğu kanıtlanmıştır.

Anahtar Kelimeler: *Çevresel Tutum, Çevre Sorunları, Sosyo-Ekonomik Özellikler, Antalya*

INTRODUCTION

The attitude is the way of behavioural attention towards a certain circumstance or a fact. On the other hand, environmental attitude is the appreciation of the fact that that damage on the environment created by the individual and political dimensions must be avoided and sustainable use of environmental resources plays crucial role in prevention of environmental problems. Evolving preventive measures for increasing environmental problems concerns not only the professionals that working in this field but depends on the attitude of entire community. Enhancement of environmental attitudes and relatively keeping such reactions on the agenda play vital role in the prevention of environmental problems (Torgler and Garcia-Valinas, 2007). Interest in environmental attitudes began early in 1970's. In developed countries the competence of the public attitude in preventing and resolving of environmental problems has already been highly appreciated and accordingly commitments on clarifying and improvement the level of environmental attitude have been further advanced (EU 1990, BMU 2002). However environmental policies are quite different in developing countries than developed ones. Main reason is that "pollution havens" bound up with industry and mining activities have not been taken

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[2]*Sorumlu Yazar:* smansur@akdeniz.edu.tr

seriously and regarded as the main driving force for economic development. Nevertheless environmental policies have been incompetent in developing countries (Walter, 1978). In this respect it is possible to state that level of environmental attitudes is higher in developed countries.

As a strong indicator of ecological behaviour; environmental attitude has been assessed in the frame of environmental values and domain of ecological behaviour (Kaiser et al., 1999) using environmental paradigm and ecocentrism–anthropocentrism scales (Schultz and Zelezny, 1999). Besides socio-economic factors and socialization experiences, environmental problems have an effect on environmental values, attitudes and behaviour of the individuals (Berenguer et al., 2005; Mansuroglu, 2000). Political activities that controlled by the socio-demographic factors in environmental incidents and environmental behaviours also affect the environmental attitude. The idea of "thinking globally and acting locally" has become forward on the environmental issues, female gender has more protective policy than males, and similar tendencies also observed in old age groups (Steel, 1996). Grob (1995) confirmed that the philosophical values and emotions of the individuals have a great impact on environmental behaviour, whereas having actual knowledge about the fact has no influence. There is a convincing relation between environmental attitude and variables of age, education level, being native or immigrant inhabitant and gender (Akis, 2000). Women and individuals that have environmental education have higher level of environmental attitude (Yucel et al., 2003). Due to fact that women have greater role in prevention of environmental problems there are number of initiative for the improvement of women's attitude towards environment especially in underdeveloped and developing countries (Metwally et al., 2006). Torgler and Garcia-Valinas (2007) indicated in their study in Spain that socio-economic factors are effective on the environmental attitudes towards environmental damage. A study carried out in 21 countries on the environment and human relation with regard to spiritual and ecological aspects showed that education level contributes to environmental attitude in a positive way (Ignatow, 2006). The main variables of gender, residential place, education level and the profession of the family influence the environmental attitudes of university students while young male population holding environmental knowledge have wider overview and are mindful of environmental attitude and behaviour (Sama, 2003; Ozmen et al., 2005; Meinhold and Malkus, 2005).

This current study that carried out in Antalya, one of the most attractive tourism centres is important in respect to the fact that it indicates the level of environmental attitude of the individuals towards environmental problems and reveals some founding about how to improve public attitude to these problems. Indication of environmental attitude level of the indi-viduals in Antalya having most rapid population increase between 1990 and 2000 in Turkey is important for the sustainability of the physical environment on which tourism relies on. This study is the first scientific research on the indication of environmental attitude level in Antalya and in the light of the study results basic components for improving and enhancing individuals' attitude towards environment will be set up.

MATERIAL AND METHOD

This study was carried out in the city of Antalya, the most important tourism capital of Turkey was chosen as the research area (Figure 1).
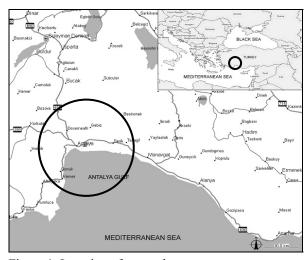

Figure 1. Location of research area.

Method of the study follows 6 steps as;
- determining sample size,
- selecting interview method,
- designing of questionnaire,
- pre-testing and revision of interviews,
- collecting data and
- indicating environmental attitude value and level

The sampling was carried out by the random selection among the people living in urban periphery of Antalya city. Sampling size was justified by min 400 samples for the population over 100.000 people according to justified Arkin and Colton with expected 5 % error efficiency (Pulido, 1972). This size was reckoned up to 512 samples in total sampling. Face to face interviews were performed using standard questionnaire in indication environmental attitudes. Interviews were consisted of two main sections; a) attitudes about the environment and, b) socio-economic profile.

Variables on "attitudes towards environment" were;
• Prior contribution for the environmental protection,

- Membership in non-governmental organisations (NGOs),
- Recognition of NGOs worldwide and in Turkey,
- Following media on environmental issues,
- Attitude towards people and companies that damaging environment,
- Waste separation,
- Preferred type of environmentally friendly packing,
- Preferred type of environmentally friendly vehicle,
- Use of ozone depleting agents,
- Participation in afforestation activities.

On the section of "socio-economic profile" influence of socio-economic variables such age, gender, profession, education level on the attitudes of individuals towards environmental problems and protection was analysed. A scaling system based on the question type was developed for 10 questions in the first section of the study that covering attitudes on the environment.

Single-Choice Questions: Max value for the questions was supplemented as "10" points. According to the attribute and the type, questions scaled in similar value were regarded with same point. When the questions differ in value, evaluation was carried out between 10 and 0 points according to the importance of their choices.

Close Ended Multiple-Choice Questions: Here responses about the recycling and toxic wastes were used as an indicative question. Because this questioning was based on the statement of the respondents total of positive choices was supplemented as "30" points. In terms of attribute of the question, choices were arranged as 8, 7, 5 and 3 points where choice for "not separating/no separation" was evaluated as "0" point.

Open Ended Questions: There was one open ended question about the acquaintance with any governmental and voluntary organisation working for the environment. Hereby "2" points was supplemented for each organisation that respondents were familiar with and number of organisation was limited as 5 points.

Owing to different scaling of questions, there was a need to take equivalent weighted into account, which was delivered by estimating % max value of each question. Accordingly "***Environmental Attitude Value***" was found out for each individual by taking mean arithmetic of equivalent weighted points that obtained from the questions on environmental attitude and "***Environmental Attitude Level***" was indicated in 5-point likert scale as follows;

85- 100: Very high (most supportive-constructive attitude)

70 – 84: High (supportive-constructive attitude)

50 – 69: Medium (partly supportive attitude)

30 – 49: Low (poorly supportive)

0 – 29 : Very low (not supportive attitude)

A crosswise comparison between environmental attitude level and socio-economic characteristics of gender, age, education, profession and income was carried out by using SPSS 10 software programme. The relation between socio-economic characteristics and environmental attitude level was assessed and indicated in "Cross tables". In addition, Chi-square and Fisher's exact tests were also applied for the relation between some of the socio-economic characteristics and level of environmental attitude.

RESULTS

Evaluation of Questionnaire

Socio-Economic Profile

Gender, marital status, age and whether they have taken any courses on the environment were investigated in this section. Majority of the respondents were male in 71.5%, and female in 28.5%, while 57.4% were married and 42.6% were single (Table 1). Asking if the respondents had any courses about the protection of environment and nature during their education that 80.1% had lectures where percentage of the respondents that had no courses was 19.9%. Individuals had lectures on environment and nature in high school (28.8%), in secondary school (23.4%), in primary school (14.6), in university (13.7%) and in post-graduate (1.6%).

Table 1. Socio-economic characteristics of the respondents

Age Groups	(%)	Education	(%)	Occupation	(%)	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	Vocational High school	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

Attitudes towards Environment

Contribution to environmental protection: Inhabitants in Antalya reflected their strong willingness to volunteer in environmental protection activities (68.2%). Additionally 13.5% of the respondents expressed that they will pay extra tax for environmental protection, 8.0% will make charitable giving, 7.6% will inform people and take actions and only 2.7% will put no contribution at all (Table 2).

Membership in Non-Governmental Organisations (NGO): Only 10.5% of the respondents were the member of a non-governmental environmental organisation. TEMA (The Turkish Foundation for Combating Soil Erosion, for Reforestation and the Protection of Natural Habitats) is the on the first line in 78.1%.

Table 2. Individual contribution to the protection

Type of contribution	(%)
Charitable giving	8
Tax	13.5
No contribution	2.7
Volunteer	68.2
Other	7.6
TOTAL	**100.0**

Number of environmental organisation known in Turkey and worldwide: While 19.7% of the individuals have neither known nor have information about any of the official and voluntary environmental organisation in Turkey and worldwide, 38.1% knew one, 31.1% knew two, 9.4% knew three, 1,0%knew four and 0.8% knew the names of environmental organisation. Most known organisation was TEMA and Foundation for the Protection of Natural Values in 70.1% and Greenpeace in 10.4% (Table 3).

Table 3. Membership in NGOs and number of environmental organisations that known

Number in NGO membership	(%)	Number of environmental organisation known	(%)
No membership	**89.5**	No organisation is known	19.7
1 membership	9.3	1 organisation is known	38.1
2 membership	1.0	2 organisation is known	31.1
4 membership	0.2	3 organisation is known	9.4
		4 organisation is known	1
		5 organisation is known	0.8
TOTAL	100.0	**TOTAL**	100.0

Following media on environmental issues: Majority of respondents were interested in the media on environmental issues in 91.0% and keeping up with TV, radio, newspapers regularly in 17.2%, where 9% were not interested at all (Table 4).

Table 4. Following media via TV-Radio-Newspaper about environment

Observation	(%)
Regularly observing	17.2
Sometimes	73.8
Not observing	9.0
TOTAL	**100.0**

Attitude towards people and companies that damaging environment: People in Antalya were quite concerned about the people and companies that damaging environment that 91.4% of the respondents reported that they will react to in such cases (Table 5). 47.9% of the them indicated that they would warn, whereby 32.6% will complain to concerning institutions, 7.0% will inform the people and concerning bodies via media.

Table 5. Attitude towards people and companies that damaging environment

Attitude	(%)
Will complain to concerning institutions	32.6
Will warn on her/his own	47.9
Will not warn	8.6
Will inform via media	7.0
Other	3.9
TOTAL	**100.0**

Waste separation: Concerning households 42,8% of the respondents were not separating their waste, while 24,2% separate only one type (paper); 18,2% separate two types (paper, glass); 10,4% separate three types (paper, glass, battery) and 3,1% separate four types of wastes (paper, glass, battery and plastics) (Table 6). Single waste separating respondents were separating paper/newspaper in 42,8%, glass in 7,8%, battery in 3,1%, plastic in 2,1% and organic only in 1,4% (Table 7).

Table 6. Waste separation based on number of waste

Number of waste collected separately	(%)
No waste is collected	42.8
1 waste is collected	24.2
2 waste is collected	18.2
3 waste is collected	10.4
4 waste is collected	3.1
5 waste is collected	1.4
TOTAL	**100.0**

Preferred type of environmentally friendly packing: The type of preferred packing of individuals is questioned for liquid and solid products presuming that they are the same price. Hereby individuals preferred glass packing for liquid products with deposit (57.8%), which is followed by glass packing without deposit (28.3%), cardboard boxes (9.0%), plastic bag

(3.1%) and metal can (1.2%). Similarly glass packing was preferred for solid products (47.1%) and plastic packing (5.7%), plastic bag (5.7%) and metal cans (2.9%) (Table 8).

Table 7. Waste separation according to type of waste (%)

Type of waste \ Number separated	One	Two	Three	Four	Five
Paper/newspaper	**42.8**	0.2	0	0	0
Glass	7.8	21.7	0	0	0
Battery	3.1	5.3	7.2	0	0
Plastic	2.1	5.3	6.1	3.7	0
Organic	1.4	0.6	1.6	0.8	1.4
Not separated	42.8	42.8	42.8	42.8	42.8
No response	0	24.2	42.4	52.7	55.8
TOTAL	100.0	100.0	100.0	100.0	100.0

Table 8. Preferred type of packing for liquid and solid products

Liquid Products	(%)	Solid Products	(%)
Glass with deposit	57.8	Plastic packing	5.7
Glass without deposit	28.3	Glass packing	47.1
Metal can	1.2	Cardboard boxes	38.7
Cardboard box	9.6	Plastic bag	5.7
Plastic	3.1	Metal can	2.9
TOTAL	100.0	**TOTAL**	100.0

Preferred type of environmentally friendly vehicle: People living in Antalya were willing to use subway and train (38.7%) concerning environmental protection. and bicycle (36.1%), public transport (17%), private cars (6.1%) and other means of transport like walking. motorbikes (2.1%) (Table 9).

Table 9. Preferred type of environmentally friendly vehicle

Type of vehicle	(%)
Bicycle	36.1
Private car	6.1
Public transport	17
Subway and train	38.7
Other	2.1
TOTAL	**100.0**

Attitude towards ozone depleting agents: Examining individuals' attitudes towards ozone depleting agents showed us that 45.3% of the respondents were mindful of not buying such agents while 25.4% preferred ozone friendly agents, 14,3% had no idea, 12.7% were not caring about and paying no attention (Table 10). Here such consumer preferences become apparent as indispensability for such products, inefficient label information on the products.

Table 10. Attitude towards ozone depleting agents

State of buying ozone depleting agents	(%)
Mindful not to buy	45.3
Pay no attention	12.7
Prefer ozone friendly agents	25.4
No idea at all	14.3
Other	2.3
TOTAL	100.0

Participation in afforestation activities: Afforestation is the process of establishing a forest by planting trees on land that has been either overexploited or lost its natural qualities. Usually organized by local initiatives and/or NGOs afforestation activities gather people for one particular goal of improving environmental quality in local setting that perceived as pro-environmental behaviour. Relatively participation of respondents in afforestation activities is considerably high with 78.1% participation, but 21.9% were not interested at all.

Indication the Level of Environmental Attitude

Based on the scaling system in the methodology "Environmental Attitude Value" of individuals was evaluated. According to socio-economic characteristics of mean, max and min environmental attitude value "Environmental Attitude Level" was indicated as in Table 11. Environmental attitude level of individuals that living in Antalya was "medium" in 53.9%, "high" in 24.2%, "low" in 18%, "very high" in 3.1% and "very low" in 0.8%. Mean environmental attitude value was 61.4 point while min 14.0 and max 100 point. Chi-square analysis revealed that there is a significant relation between environmental attitude level and gender that average attitude level of female gender was higher than male. 31.5% of women respondents have high and 4,8% very high, whereas 21.3% of men respondents have high and 2.5% very high level of environmental attitude (Table 11).

Due to limited number of literate and illiterate individuals with only one respondent, this variable was not evaluated in the relation between level of attitude and education level. In entire education group, medium level of environmental attitudes was most prevailing one. University graduates had very high (6.6 %) and secondary school graduates had very low (7.3%) level of environmental attitude. According to chi-square analysis a significant relation between was found between education level and environmental attitude. Environmental attitude level of the respondents with at least vocational school and further education was higher than respondents with high school and lower education.

In all age group environmental attitude value was "medium", thus additionally followed by "high" and "low". Relatively age group 25-30 had "very high" (% 5.2) and age group 31-40 "high" (% 28.6) attitude level. According to chi-square analysis no significant

relation was found between age and environmental attitude value.

Regardless of the profession of the respondents *"medium"* level of environmental attitude was noted widely in all profession groups. Because the number of farmer was "one", this variable was not evaluated.

Professional groups with *"high"* level of environmental attitude were employee (31.3%), retired people (30.6%) and people working in private sector respectively. Chi-square analysis showed that there was not any significant relation between profession and environmental attitude value.

Table 11. Environmental attitude according to social-economic characteristics (n= number of samples).

Criteria		Attitude Value			Environmental Attitude (%)					
		Mean	Min	Max	Very low	Low	Me-dium	High	Very High	Chi –Square*
Gender	Male n=366	60.3	14	100	1.1	19.4	55.7	21.3	2.5	χ^2=10.156 P=0.038
	Female n=146	64.2	34	93	0	14.4	49.3	31.5	4.8	Fisher's exact test P=0.042
Education	Primary School n=38	57.2	35	82	0	23.7	63.2	13.2	0	χ^2=28.957 P=0.000
	Secondary School n= 55	53	14	79	7.3	27.3	54.5	10.9	0	Fisher's exact test P=0.000
	High School n= 214	60.8	30	91	0	19.2	57.9	20.1	2.8	
	Vocational High School n= 44	63.3	43	82	0	13.6	6.8	29.5	0	
	University n= 136	65.9	35	100	0	11.8	45.6	36.0	6.6	
	Post Graduate n= 23	64.4	44	93	0	17.4	43.5	34.8	2.8	
	Literate n= 1	*48*			0	100	*0*	0	0	
	Illiterate n=1	*60*			0	0	100	*0*	0	
Age	18-24 n=127	61.6	25	91	0.8	18.1	54.3	22.0	4.7	χ^2=5.171 P=0.270
	25-30 n=97	60.6	22	91	1.0	23.7	47.4	22.7	5.2	
	31-40 n=119	61.9	14	100	0.8	18.5	49.6	28.6	2.5	Fisher's exact test P=0.262
	41-50 n=97	60	34	82	0	20.6	57.7	21.6	0	
	51-60 n=56	63.2	27	82	1.8	5.4	64.3	25.0	3.6	
	61 and older n=16	62.9	33	84	0	6.3	62.5	31.3	0	
Profession	Private sector n=112	62.8	14	96	0.9	16.1	49.1	30.4	3.6	χ^2=4.561 P=0.339
	Student n=99	61.9	25	91	1.0	20.2	52.5	20.2	6.1	Fisher's exact test P=0.334
	Tradesman n=81	55.7	27	82	1.2	30.9	55.6	12.3	0	
	Employee n=80	63.5	35	100	0	16.3	48.8	31.3	3.8	
	Retired n=62	64.4	33	91	0	6.5	59.7	30.6	3.2	
	Labourer n=42	58.8	22	82	2.4	16.7	61.9	19.0	0	
	Unemployed n=35	61.6	36	87	0	14.3	60.0	22.9	2.9	
	Farmer n=1	55	-	-	0	0	100	*0*	0	
Income (EURO)	Less than 280 n=69	57.6	14	91	2.9	20.3	63.8	8.7	4.3	χ^2=6.802 P=0.152
	280-560 n=172	60.3	27	91	0.6	19.2	54.7	23.3	2.3	
	560-1120 n=214	63.6	25	100	0.5	13.1	52.8	30.4	3.3	Fisher's exact test P=0.166
	1120-1680 n=39	59.4	39	87	0	28.2	48.7	20.5	2.6	
	1680-2240 n=14	62.6	37	93	0	35.7	35.7	21.4	7.1	
	More than 2240 n=4	68.3	46	82	0	25.0	25.0	50.0	0	
Afforestat. activities	Yes n=400	64.45	22	100	0.3	10.8	54.5	35.5	4	χ^2=94.024 P=0.000
	No n=112	50.47	14	75	2.7	43.8	51.8	1.8	0	Fisher's exact test P=0.000
Environ. courses	Yes n=410	62.29	22	100	0.5	17.1	52.4	26.1	3.9	χ^2=10.989 P=0.028
	No n=102	57.79	14	84	2.0	21.6	59.8	16.7	0	Fisher's exact test P=0.016
Environ. member	Yes n=54	76.81	45	100	0	1.9	25.9	42.6	29.6	χ^2=162.084 P=0.000
	No n=458	59.58	14	84	0.9	19.9	57.2	22.1	0	Fisher's exact test P=0.000
TOTAL n=512		61,4	14.0	100	0.8	18	53.9	24.2	3.1	-

*P<0, 05 significant relation.

Economic situation and income level is another specific variable that affects environmental attitudes. Regarding the income level, respondents with monthly

1680-2240 EUR income had *"very high"* level of environmental attitude in 7.1%, *"high"* with more than 2240 EUR in 50% and *"medium"* with 560-1120

EUR in 52.8%. According to chi-square analysis no significant relation was found between income groups and environmental attitude value.

Comparing the participation in afforestation activities and environmental attitude, there is precise relation that 4 % of the respondents that already participated in such activities have *"very high"* level of environmental attitude, whereas 35.5 % *"high"*, 54.5 *"medium"*, 10.8 % *"low"* and 0.3 % very low. Chi-square analysis proved that respondents that participated in afforestation activities have higher level of environmental attitude. The environmental attitude level of the respondents that already participated in afforestation activities was generally higher. Individual participated had *"very high"* level of environmental attitude in 4%, *"high"* in 35.5% and only 1.8% of the respondents not participated in any afforestation activities was *"high"* in 1.8% without no *"very high"* level. Chi-square analysis showed that there was not any significant relation between participation in afforestation activities and environmental attitude value.

The environmental attitude value of the respondents having courses about the protection of environment and nature during their education was relatively higher. While individuals with environmental courses had *"very high"* attitude level in 3.9%. A significant relation between state of being taken courses about the protection of environment and nature and environmental attitude value was found according to chi-square analysis.

One of the criteria evaluated in the study was the membership in voluntary environmental organisation. The environmental attitude of the individuals with a membership in such organisations was on *"very high"* level in 29.6%. Chi-square analysis also indicated that there is significant relation between membership in any voluntary environmental organisation and level of environmental attitude.

DISCUSSION

Since the environmental problems have become a threatening factor on natural resources and human well-being, public attitude towards those problems gained greater importance and number of initiatives on political and economic platforms. Environmental problems were first issued on international level by the United Nations Conference on Environment and Human on June 5th 1972. In spite of a number of meetings in the following years and various regulations, environmental problems have still been on an increasing phase. Unfortunately governmental policies and initiatives taken by international organisations and NGOs have not been efficient enough to solve overall environmental problems. Public participation in all activities on environment that concerning entire humanity and developing environmental attitudes towards environment in particular is necessary to resolve environmental problems solving for long term.

In various scientific studies on determining factors that effective on the environmental attitudes, it is indicated that young people are more active in pro-environmental behaviour than older people, where women are more active than men and people with higher income and education are more active (Torgler and Garcia-Valinas, 2007). With this research indicating environmental attitude of Antalya inhabitants, it is found out that total environmental attitude value of the individuals was on the *"medium"* level with 61.4 point, whereas totality of environmental attitude level on *"medium"* in 53.9%, *"low"* in 18% and *"very low"* in 0.8% was 72.7% and the totality on *"high"* in 24.2% and *"medium"* level in 3.qw1% was 27.3%.

Environmental attitude level of *"medium"* was largely evident for analysed criteria on education, age and profession groups. Thus demonstrates that people living in Antalya are unable to show clear attitude towards environmental problems. Relatively main reason for this result can be stated that Antalya, city of tourism has not experienced yet any serious environmental problem and there is lack of interest in education of individuals in the society about the environment. Experiencing unplanned and unhealthy urban developments within the last decade, likely environmental problems in the future may greatly affect the attitude that individuals living in Antalya would show. Policies on environmental issues in developing countries generally neglected, thus previous experiences are more effective on the opinion and interest of the people about nature and environment (Mansuroglu, 2000; Walter, 1978).

In the evaluation of environmental attitude, main variables were prior contribution for the environmental protection, membership in non-governmental organisations (NGOs), recognition of NGOs worldwide and in Turkey, following media on environmental issues, attitude towards people and companies that damaging environment, waste separation, preferred type of environmentally friendly packing, preferred type of environmentally friendly vehicle, use of ozone depleting agents and participation in afforestation activities. Kaiser et al. (1999) indicated environmental attitude with the main factors of environmental knowledge, environmental values and ecological behaviour, while Schultz and Zelezny (1999) used such terms of new environmental paradigm and ecocentrism–anthropocentrism.

Study results revealed that 19.7% of the individuals had no information about any NGO either worldwide and in Turkey and only 38.1% knew one organisation, whereas TEMA and Greenpeace were most well-known ones. Ozcatalbas (2000) in his work determining public awareness in urban and rural parts in Adana region, found out similar results that 33.0% of the respondents knew one organisation.

Regarding to waste separation 42.8% of the individuals were not separating their household waste and

24.2% are separating more than type at once. Based on the increasing income level, the number of people that collecting waste separately has been growing. Most separated type of waste is paper (85.41%) covering more newspaper and magazine (DIE 1995). Mansuroglu and Uzun (1999) informed that paper (27.0%), glass (16.0%) and metal (7.0%) were major waste types that have recently been separated.

People's attitude towards environment depends upon such variables as social-cultural factors and socializing experiences. There are strong relation between environmental attitude and age, education, income level, being inhabitant or immigrant and gender (Steel, 1996; Berenguer et al., 2005; Akis, 2000).

Environmental attitude level of women in Antalya was found higher than men. With regard to environmental attitude women were more concerned about the environment on "*high*" and "*very high*" level comparing to men. Similarly also found that level of environmental attitude is higher in female population that represent an important interest group in developing and undeveloped countries in preventing environmental problems (Metwally et al., 2006; Dupont, 2004). Owing to age groups "*medium*" and futher level of environmental attitude" was higher on the age group of 51-61. Evaluated as middle age group there was 3.2 point differences in environmental attitude value between this and other age groups. According to Steel (1996) people at older age have more protective policies towards environment than young people.

Regarding to education level, environmental attitude level is changing and positively increasing by higher education. People with university degree had "*high*" level of environmental attitude in 36.0%. Studies by Sama (2003) on the university students in Gazi University Education Faculty, Ozdemir et al. (2004) in Ankara University Medical Faculty and Ozmen et al. (2005) in Celal Bayar University revealed that attitude of university students towards environment is quite impotent and closely related to their social-economic and cultural characteristics. Having courses about the protection of environment and nature during their education significantly affected environmental attitudes on "*high*" and "*very high*" level. Attitude level of individuals with environmental courses was all high while the attitude of individuals that had environmental courses only on post-gradate education was "*medium*" level. Similar results were derived from the study on the personnel working at the university and university students by Yucel et al. (2003). Studies on the relationship between environment and people in spiritual and ecological sense carried out in 21 countries have stressed out that education was positively correlated with attitudes towards environment (Ignatow, 2006). Gender, place of living for the longest extend, education level and profession of parents are influential on the environmental attitude of university students and particularly young males having knowl-

edge about the environment are more concerned (Sama, 2003; Ozmen et al., 2005; Meinhold and Malkus, 2005). On the other hand Grob (1995) explained that having environmental knowledge is not necessarily affecting attitudes but philosophical values and emotional nature is considerably important.

With regard to income level, people having more than 2240 EUR had "highest environmental attitude values which was decreasing on the parallel of income level. According to profession, environmental attitude was found to be high for group of retired people, which might be also related with age factor. Our study released that professional background is not necessarily related with environmental attitude value that found "*high*" in almost all professional groups as employee, students, unemployed people, private sector and tradesman. Yucel (1994) wrote that employee among profession groups in Adana City are more sensitive to environmental problems, whereby Ozdemir (1988) reported that scientists have highest and farmers have lowest environmental attitude among all investigated professional groups.

As a conclusion it is possible to state that inhabitant of Antalya is quite young and well educated owing to the fact that 66.9% of the population are under middle age and 81.5% have high school and further education. However environmental attitude level of these young and educated people is quite low than expected, thus can be related with inefficiency in education, lack of experiences and knowledge about the consequences of environmental problems and incompetent capacity in societal reaction. On the light of the results that maintained by this current study such conclusion can be made that training initiatives must be carried out in order to improve public attitude towards environmental protection with the support of concerning institutions and organisations; by the leadership of local administrations public opinions must be taken into account in all environmental related issues and finally based on public attitudes, values and opinions a fine balance must be set up between people and the environment.

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