ATTITUDES ON DEFORESTATION AND PROTECTION OF FORESTS IN ARMENIA: NATIONWIDE SURVEY FINDINGS

Prepared for

The EcoArmenia Consortium
Save Our Forests Campaign

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Summary of Key Findings

Attitudes toward deforestation and protection of forests

- Nine out of ten Armenians are interested in the protection of forests in Armenia.

- Only four out of ten Armenians are at least "somewhat satisfied" with the protection of forests in Armenia.

- Nearly all Armenians believe that forests are important for preserving the long-term diversity of plants and animals, protecting against desertification, soil erosion and floods, and ensuring the long-term supply of places for recreation and relaxation. Eight in ten indicated that forests are important for ensuring a supply of wood long-term.

- Nearly all Armenians believe that everyone in Armenia must take personal responsibility for the environment and that forests should be saved for the benefit of the environment and people.

- Nine out of ten Armenians are worried that their children will live in a worse environment than they do now.

- Seven out of ten Armenians believe that the ecological crisis facing Armenia has not been exaggerated.

- Nearly all Armenians agree that "deforestation is a significant problem in Armenia," and nine in ten Armenians disagree that "we still have plenty of forests in Armenia and deforestation is not a significant problem."

- About two-thirds of Armenians believe that the condition of forests has been getting worse in the past five years in Armenia.

- Nearly all Armenians agree that "it is fine to harvest wood from forests as long as it is properly managed in a sustainable way."

- Nine in ten Armenians believe that "if poverty decreased, then the illegal use of the forest for firewood would decrease."

- Seven in ten Armenians would report about the illegal cutting of forest if they observed it.

- The major causes of deforestation in Armenia cited by Armenians are businesses that export wood outside Armenia, businesses that sell wood in Armenia, and people outside villages who cut wood to sell.

- Armenians gave a score of 9.5 (on a scale of one to ten where ten is "perfect solution") to making gas available to all Armenian households.

- Nearly all Armenians agree that "the Armenian Government should not allow the export of wood."

Levels of knowledge about deforestation

- Six in ten Armenians indicated the shortage of oxygen as the major impact of the loss of forests on themselves and their families.

- Nine in ten Armenians believe that the decrease of forest land can result in the loss of mushrooms, herbs and berries, micro-climate change, and loss of biodiversity.

- The top four negative effects of deforestation indicated by Armenians are micro-climate change, desertification, drying of springs and rivers, and loss of biodiversity.

Use of forests

- Seven in ten Armenians use forests for relaxation and recreation, while five in ten go to forests for gathering non-wood products like herbs.

- Fourteen percent of Armenians go to forests for gathering wood for own home fuel use.

- Far more rural and marz residents than urban and Yerevan residents gather wood for own home fuel use in the forests. Similarly, far more residents of forest adjacent villages than residents of non-forest adjacent villages go to forests for this purpose.

Background

The EcoArmenia Consortium has initiated a campaign aimed at addressing the multi-faceted problem of deforestation in Armenia through its Save Our Forests Campaign. The Consortium is made up of some of the most active and effective environmental organizations in Armenia – the World Wildlife Fund Armenia, the Environmental Conservation and Research Center at the American University of Armenia, the Armenia Tree Project, and the Armenian Forests NGO. The overall campaign will include a comprehensive program that addresses joint natural resource management, economic development and good governance in Armenia. The Save Our Forests campaign aims to introduce and advocate for a series of solutions aimed at addressing this multifaceted problem of deforestation in Armenia.

The Turpanjian Center for Policy Analysis (TCPA) at the American University of Armenia was contracted to conduct a survey in order to provide information for the design of the public awareness campaign in the framework of the Save Our Forests initiative. The purpose of this nationwide study is to assess the understanding and level of knowledge in the public about forests and deforestation, to determine the Armenian public's beliefs, attitudes, and behavior toward the protection of forests, and to understand wood use patterns.

This report presents part of the data from the survey and focuses on attitudes on deforestation and protection of forests in Armenia.

Methodology

In order to create a representative sample of Armenian citizens between the ages of 18 and 75, the ROA National Statistical Service was contacted for current information on the following parameters: 1) population by marzes; 2) population by rural and urban residents within each of the ten marzes and; 3) population by the twelve communities in Yerevan. Households were selected from the city of Yerevan and from the ten marzes proportionately to reflect the most recent ROA census figures. From each marz, one city and one village participated in the survey. For each of the ten cities, detailed maps produced by the ROA Geodesy and Cartography Center were used.[1] A map indicating buildings in Yerevan by community was employed. Each of the ten marz cities and the twelve Yerevan communities was contacted in order to determine the proportion of apartment buildings and single-household dwellings. For each of the marz cities and the Yerevan communities, the maps were employed to randomly select buildings using systematic random sampling. On site in the ten cities and Yerevan, for each apartment building one household per building was selected using simple random sampling.

One of the requirements of this study was to interview residents of both forest adjacent and non-forest adjacent villages. Forest adjacent villages[2] were selected for five marzes with the largest forest areas[3] (Tavush, Lori, Syunik, Gegharkunik and Kotayk marzes). For each of these five marzes sampling frames of only forest adjacent villages were created with the assistance of

[1] These were produced originally for the ROA 2001 census.
[2] Defined as villages located within 5 km from forests
[3] As of January 1, 1999, according to the ROA National Statistical Service

the Environmental Conservation and Research Center at the American University of Armenia.[4] For each of these five marzes, one forest adjacent village was randomly selected. In the remaining five marzes one village per marz was randomly sampled. Each of the ten villages was contacted to determine the number of households and households were selected on site using systematic random sampling. The availability of gas in the village was also determined beforehand. As a result, six villages with gas and four villages without gas were included in the survey.

Within households, respondents were selected randomly. See Tables 1 through 5 for the numbers of interviews conducted by marz, urban versus rural sampling populations, forest adjacent versus non-forest adjacent sampling populations, and gas availability in the villages. Fifty-one percent of the respondents in marz cities and about 14 percent of the respondents in Yerevan communities are living in single-household dwellings.

TCPA designed custom measures and an original questionnaire based on the information needs of EcoArmenia. A search was made by TCPA for appropriate surveys on forests and deforestation in other countries that could provide reliable and valid indicators.[5] A pre-test was conducted of all measures and adjustments were made accordingly. A total of 1006 interviews were conducted from December 6 through December 19, 2006.[6] All data, both quantitative and recoded qualitative, were input in SPSS for analysis.

At the completion of interviews, participants in the survey were provided with an information leaflet with an overview of Save Our Forests Campaign and contacts of organizations involved in the initiative.

Findings

The mean age of respondents was 45 years (see Table 18) and 32 percent were male and 68 percent female (see Table 17).

Attitudes toward deforestation and protection of forests

Eighty-eight percent of the respondents indicated that they are interested in the protection of forests in Armenia (see Table 6). Urban and Yerevan residents are more interested in the protection of forests in Armenia than rural and marz residents.

The majority of respondents (57 percent) indicated that they are unsatisfied with the protection of forests in Armenia. Nearly 44 percent of the respondents indicated that they are "very unsatisfied" with the protection of forests in Armenia (see Table 12).

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[4] Retrieved from the forests map of Armenia through Geographical Information System (GIS) program

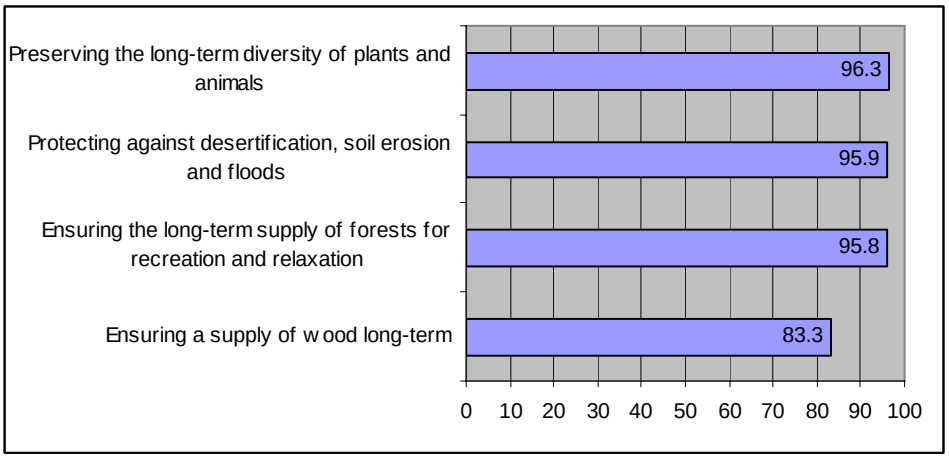
[5] Two measures were adapted from the questionnaires of the consumer survey of the EU FAIR Project FP4-CT95-766 conducted in 1996 in the UK, and of the public opinion survey on sustainable forest management conducted in 2005 in Canada by the Collaborative for Advanced Landscape Planning (CALP) at the University of British Columbia, Canada.

[6] Refusal rate is 8.5 percent.

Importance of forests for Armenian society

About 96 percent of the respondents indicated that forests serve three important purposes: preservation of the long-term diversity of plants and animals, protection of society against negative effects such as desertification, soil erosion and floods, and insurance of the long-term supply of places for recreation and relaxation (see Tables 11a through 11d). Eighty-three percent of the respondents said that forests are important for ensuring a supply of wood long-term. Figure A displays the percentages of how respondents understand the importance of forests.

Figure A: Percentage understanding the importance of forests



Environmental issues

Nearly all respondents (98 percent) agreed that "each person in Armenia must take personal responsibility for the environment" (see Table 13a), with about 60 percent indicating that they "strongly agree" with the statement.

About 88 percent of the respondents reported that they are worried that their children will live in a worse environment than they do now (see Table 13c). Urban and Yerevan residents tend to agree with this statement more than rural and marz residents.

Seventy-one percent of the respondents do not believe that the ecological crisis facing Armenia has been exaggerated, with 24 percent indicating that they strongly disagree that it is exaggerated (see Table 13g).

Nearly 100 percent of the respondents said that "forests should be saved for the benefit of the environment and people" (see Table 13h).

Deforestation problem

Nearly all respondents (95 percent) agreed that "deforestation is a significant problem in Armenia," with about 55 percent saying that they strongly agree with the statement (see Table 13b).

About 86 percent of the respondents disagreed with the statement "we still have plenty of forests in Armenia and deforestation is not a significant problem," with 34 percent indicating that they strongly disagree with this statement (see Table 13e).

Almost 61 percent of the respondents indicated that the condition of forests has been getting worse in the past five years in Armenia (see Table 13j).

Using forests for firewood

Ninety-four percent of the respondents said that the illegal use of the forest for firewood would decrease if poverty decreased (see Table 13d).

Ninety-seven percent of the respondents reported that "it is fine to harvest wood from forests as long as it is properly managed in a sustainable way" (see Table 13i).

Illegal cutting of forest

Sixty-seven percent of the respondents would notify authorities if illegal cutting of forest was observed and 24 percent would not notify (see Table 8). More rural residents (71 percent) than urban residents (65 percent) said that they would report observations of illegal cutting. Similarly, more marz residents (69 percent) than Yerevan residents (64 percent) would undertake this step.

Problems that contribute to deforestation in Armenia

The highest ratings for the problems contributing to deforestation in Armenia were given by respondents to wood businesses that export wood outside Armenia (mean = 9.4), wood businesses that sell wood in Armenia (mean = 9.1), and people outside villages who cut wood to sell (mean = 8.9), followed by villagers who cut wood to sell to others (mean = 8.1), and villagers who cut wood for their own use (mean = 6.7). (See Table 14.)

Solutions that might help to save forests in Armenia

When asked to rate solutions that might help to save forests in Armenia, the highest rating was given to making gas available to all Armenian households (mean = 9.5), followed by government providing monies to plant trees and restore forests (mean = 9.3), providing households with low interest loans to connect to gas (mean = 9.0), and government providing monies to guard forests (mean = 8.8). (See Table 15.)

Marz residents were more likely than Yerevan residents to give higher ratings to gas-related solutions: providing with gas and providing with low interest loans to connect to gas. Making gas available to all Armenian households was rated higher by residents of villages without gas than by residents of villages with gas.

Government involvement

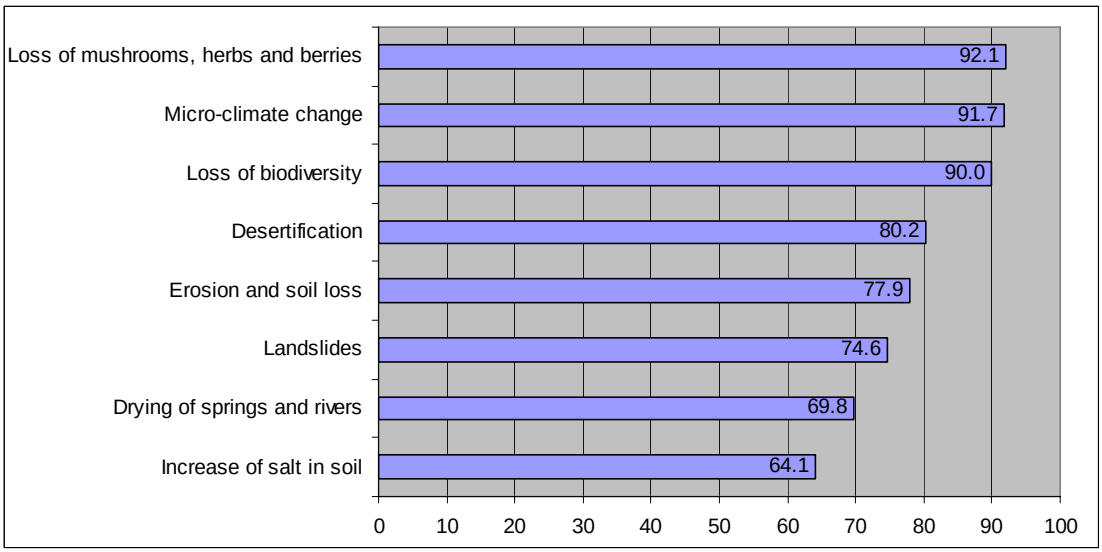
Nearly all respondents (95 percent) agreed with the statement "the Armenian Government should not allow the export of wood," with about 47 percent indicating that they strongly agree with this statement (see Table 13f).

Levels of knowledge about deforestation

About 60 percent of the respondents indicated the shortage of oxygen as the major impact of the loss of forests on themselves and their families, while 11 percent pointed to the lack of places for recreation and relaxation. Nearly seven percent of the respondents could not name an impact, and only 13 respondents said that the loss of forests has no impact (see Table 7).

Ninety-two percent of the respondents said that the loss of non-wood products such as mushrooms, herbs and berries could be a result of decreased forests. Another 92 percent indicated micro-climate change, 90 percent the loss of biodiversity, 80 percent desertification, 78 percent erosion and soil loss, 75 percent landslides, 70 percent drying of springs and rivers, and 64 percent increased salt levels in soil. (See Table 9 and Figure B.) Nearly 20 percent of the respondents could not answer the question about the increase of salt in soil.

Figure B: "Yes" answers to the question, "can you please tell me if you think that, yes or no, the item can be a result when the amount of forest land is decreased?"



Respondents were read the same list of eight results a second time and were asked to indicate the major negative effect of deforestation. The top four negative effects indicated by respondents were micro-climate change (30 percent), desertification (27 percent), drying of springs and rivers (16 percent), and loss of biodiversity (11 percent) (see Table 10). Twice as many residents of forest adjacent villages (29 percent) than residents of non-forest adjacent villages (14 percent) indicated drying of springs and rivers as the major negative effect of deforestation, while more residents of non-forest adjacent villages (29 percent) than residents of forest adjacent villages (20 percent) named desertification and micro-climate change.

Use of forests

Respondents were read a list of purposes of forest use and were asked for what reasons they or their families go to forests in Armenia. The majority of respondents (72 percent) use forests for relaxation and recreation. Forty-nine percent go to forests for gathering non-wood products like herbs. About 14 percent of the respondents gather wood for their own home fuel use, while not surprisingly only one percent of the respondents reported going to forests for cutting wood to sell to others (see Table 16).

Thirty percent of the rural residents and only five percent of the urban residents gather wood for own home fuel use in the forests. Far more marz residents (20 percent) than Yerevan residents (three percent) go to forests for gathering wood for own home fuel use. When compared by forest adjacent and non-forest adjacent villages, far more residents of forest adjacent villages (58 percent) than residents of non-forest adjacent villages (seven percent) reported this purpose of forest use. There is also a difference in the responses based on gas availability in the village: about 37 percent of the residents of villages without gas and 27 percent of the residents of villages with gas reported that they gather fuel wood in the forests.

All of the rural respondents who said that they go to forests for cutting wood for sale to others (n=5) are residents of forest adjacent villages.

Table 1: Number of interviews conducted by Yerevan and ten marzes compared to ROA census data			
	Frequency	Percent	ROA 2001 Census data
Yerevan	351	34.9	34.3
Aragatsotn	43	4.3	4.3
Ararat	85	8.4	8.5
Armavir	86	8.5	8.6
Gegharkunik	73	7.3	7.4
Lori	89	8.8	8.9
Kotayk	85	8.4	8.5
Shirak	88	8.7	8.8
Syunik	47	4.7	4.8
Tavush	42	4.2	4.2
Vayots Dzor	17	1.7	1.7
Total	**1006**	**100.0**	**100.0**

Table 2: Number of interviews conducted by urban and rural populations compared to ROA census data			
	Frequency	Percent	ROA 2001 Census data
Urban	650	64.6	64.3
Rural	356	35.4	35.7
Total	**1006**	**100.0**	**100.0**

Table 3: Number of interviews conducted in forest adjacent villages		
	Frequency	Percent
forest adjacent	163	45.8
non-forest adjacent	193	54.2
Total	**356**	**100.0**

Table 4: Number of interviews conducted in villages with gas		
	Frequency	Percent
gas to village	245	68.8
no gas to village	111	31.2
Total	**356**	**100.0**

Table 5: Number of interviews conducted by Yerevan and marzes compared to ROA census data

	Frequency	Percent	ROA 2001 Census data
Yerevan	351	34.9	34.3
Marzes	655	65.1	65.7
Total	**1006**	**100.0**	**100.0**

Table 6: Level of interest in protection of forests in Armenia

	Frequency	Percent	Valid Percent**	Cumulative Percent
very interested	535	53.2	53.7	53.7
somewhat interested	343	34.1	34.4	88.1
somewhat uninterested	29	2.9	2.9	91.0
very uninterested	90	8.9	9.0	**100.0**
don't know/can't say	9	0.9	**100.0**	
Total	**1006**	**100.0**		

Mode=1, Mean=1.67, Median=1.00 *(1=very interested and 4=very uninterested; don't know/can't say excluded)*

**Valid percent is percentage without don't know/can't say

Table 7: What is the ONE major impact of the loss of forests on respondents and their families

(open-ended question; in descending order)

	Frequency	Percent
not clean air/shortage of oxygen	603	59.9
lack of places for recreation and relaxation	111	11.0
health problems	66	6.6
ecological crisis	39	3.9
loss of fuel wood	20	2.0
harm to nature	16	1.6
climate change	14	1.4
loss of biodiversity	12	1.2
water shortage	8	0.8
psychological impact	7	0.7
desertification	7	0.7
threat of extinction of human beings	6	0.6
drying of springs and rivers	5	0.5
unstable economic situation in the country	4	0.4
other	9	0.9
no impact	13	1.3
don't know/can't say	66	6.6
Total	**1006**	**100.0**

Table 8: Respondents would report if observed illegal cutting of forest

	Frequency	Percent
yes	676	67.2
no	245	24.4
don't know/can't say	85	8.4
Total	**1006**	**100.0**

Table 9: Results when forest land is decreased

(in descending order)

		Yes	No	Don't know/ Can't say	Don't understand	Total
loss of non-wood products such as mushrooms, herbs and berries	Count	927	48	29	2	1006
	percentage	*92.1*	*4.8*	*2.9*	*0.2*	*100.0*
micro-climate change	Count	922	37	35	12	1006
	percentage	*91.7*	*3.7*	*3.5*	*1.2*	*100.0*
loss of biodiversity	Count	905	36	40	25	1006
	percentage	*90.0*	*3.6*	*4.0*	*2.5*	*100.0*
desertification	Count	807	143	52	4	1006
	percentage	*80.2*	*14.2*	*5.2*	*0.4*	*100.0*
erosion and soil loss	Count	784	109	78	35	1006
	percentage	*77.9*	*10.8*	*7.8*	*3.5*	*100.0*
landslides	Count	750	107	91	58	1006
	percentage	*74.6*	*10.6*	*9.0*	*5.8*	*100.0*
drying of springs and rivers	Count	702	201	89	14	1006
	percentage	*69.8*	*20.0*	*8.8*	*1.4*	*100.0*
increase of salt in soil	Count	645	112	199	50	1006
	percentage	*64.1*	*11.1*	*19.8*	*5.0*	*100.0*

Table 10: What is the ONE major negative effect of deforestation

(in descending order)

	Frequency	Percent	Cumulative Percent
micro-climate change	306	30.4	30.4
desertification	269	26.7	57.2
drying of springs and rivers	156	15.5	72.7
loss of biodiversity	108	10.7	83.4
landslides	61	6.1	89.5
loss of non-wood products such as mushrooms, herbs and berries	37	3.7	93.1
erosion and soil loss	35	3.5	96.6
increase of salt in soil	17	1.7	98.3
none	2	0.2	98.5
don't know/can't say	15	1.5	**100.0**
Total	**1006**	**100.0**	

Table 11a: How important for Armenian society in general is ensuring a supply of wood long-term

	Frequency	Percent	Valid Percent	Cumulative Percent
very important	420	41.7	43.0	43.0
somewhat important	393	39.1	40.3	83.3
somewhat unimportant	78	7.8	8.0	91.3
not important at all	85	8.4	8.7	**100.0**
don't know/can't say	30	3.0	**100.0**	
Total	**1006**	**100.0**		

Mean=1.82, Mode=1, Median=2.00 *(1=very important and 4=not important at all; don't know/can't say excluded)*

Table 11b: How important for Armenian society in general is preserving the long-term diversity of plants and animals

	Frequency	Percent	Valid Percent	Cumulative Percent
very important	772	76.7	77.7	77.7
somewhat important	185	18.4	18.6	96.3
somewhat unimportant	32	3.2	3.2	99.5
not important at all	5	0.5	0.5	**100.0**
don't know/can't say	12	1.2	**100.0**	
Total	**1006**	**100.0**		

Mean=1.27, Mode=1, Median=1.00 *(1=very important and 4=not important at all; don't know/can't say excluded)*

Table 11c: How important for Armenian society in general is ensuring the long-term supply of forests for recreation and relaxation

	Frequency	Percent	Valid Percent	Cumulative Percent
very important	715	71.1	71.5	71.5
somewhat important	243	24.2	24.3	95.8
somewhat unimportant	32	3.2	3.2	99.0
not important at all	10	1.0	1.0	100.0
don't know/can't say	6	0.6	100.0	
Total	**1006**	**100.0**		

Mean=1.34, Mode=1, Median=1.00 *(1=very important and 4=not important at all; don't know/can't say excluded)*

Table 11d: How important for Armenian society in general is protecting society against negative effects such as desertification, soil erosion and floods

	Frequency	Percent	Valid Percent	Cumulative Percent
very important	748	74.4	76.5	76.5
somewhat important	190	18.9	19.4	95.9
somewhat unimportant	22	2.2	2.2	98.2
not important at all	18	1.8	1.8	**100.0**
don't know/can't say	28	2.8	**100.0**	
Total	**1006**	**100.0**		

Mean=1.29, Mode=1, Median=1.00 *(1=very important and 4=not important at all; don't know/can't say excluded)*

Table 12: Level of satisfaction with protection of forests in Armenia

	Frequency	Percent	Valid Percent	Cumulative Percent
very satisfied	67	6.7	7.1	7.1
somewhat satisfied	336	33.4	35.6	42.6
somewhat unsatisfied	131	13.0	13.9	56.5
very unsatisfied	411	40.9	43.5	**100.0**
don't know/can't say	61	6.1	**100.0**	
Total	**1006**	**100.0**		

Mean=2.94, Mode=4, Median=3.00 *(1=very satisfied and 4=very unsatisfied; don't know/can't say excluded)*

Table 13a: Each person in Armenia must take personal responsibility for the environment

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	595	59.1	59.7	59.7
agree	386	38.4	38.7	98.4
disagree	16	1.6	1.6	**100.0**
strongly disagree	0	0.0	0.0	
don't know/can't say	9	0.9	**100.0**	
Total	**1006**	**100.0**		

Mean=1.42, Mode=1, Median=1.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13b: Deforestation is a significant problem in Armenia

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	540	53.7	54.8	54.8
agree	396	39.4	40.2	95.0
disagree	48	4.8	4.9	99.9
strongly disagree	1	0.1	0.1	**100.0**
don't know/can't say	21	2.1	**100.0**	
Total	**1006**	**100.0**		

Mean=1.50, Mode=1, Median=1.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13c: Worried that my children will live in a worse environment than we do now

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	416	41.4	44.3	44.3
agree	405	40.3	43.2	87.5
disagree	113	11.2	12.0	99.6
strongly disagree	4	0.4	0.4	**100.0**
don't know/can't say	68	6.8	**100.0**	
Total	**1006**	**100.0**		

Mean=1.69, Mode=1, Median=2.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13d: If poverty decreased, then the illegal use of the forest for firewood would decrease

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	529	52.6	53.8	53.8
agree	396	39.4	40.2	94.0
disagree	54	5.4	5.5	99.5
strongly disagree	5	0.5	0.5	**100.0**
don't know/can't say	22	2.2	**100.0**	
Total	**1006**	**100.0**		

Mean=1.53, Mode=1, Median=1.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13e: We still have plenty of forests in Armenia and deforestation is not a significant problem

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	21	2.1	2.2	2.2
agree	118	11.7	12.2	14.4
disagree	499	49.6	51.5	65.9
strongly disagree	330	32.8	34.1	**100.0**
don't know/can't say	38	3.8	**100.0**	
Total	**1006**	**100.0**		

Mean=3.18, Mode=3, Median=3.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13f: The Armenian Government should not allow the export of wood

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	449	44.6	46.9	46.9
agree	462	45.9	48.2	95.1
disagree	40	4.0	4.2	99.3
strongly disagree	7	0.7	0.7	**100.0**
don't know/can't say	48	4.8	**100.0**	
Total	**1006**	**100.0**		

Mean=1.59, Mode=2, Median=2.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13g: The so-called ecological crisis facing Armenia has been exaggerated

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	24	2.4	2.8	2.8
agree	225	22.4	26.0	28.8
disagree	407	40.5	47.1	75.8
strongly disagree	209	20.8	24.2	**100.0**
don't know/can't say	141	14.0	**100.0**	
Total	**1006**	**100.0**		

Mean=2.93, Mode=3, Median=3.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13h: Forests should be saved for the benefit of the environment and people

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	529	52.6	52.9	52.9
agree	469	46.6	46.9	99.8
disagree	2	0.2	0.2	**100.0**
strongly disagree	0	0.0	0.0	
don't know/can't say	6	0.6	**100.0**	
Total	**1006**	**100.0**		

Mean=1.47, Mode=1, Median=1.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13i: It is fine to harvest wood from forests as long as it is properly managed in a sustainable way

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	427	42.4	42.9	42.9
agree	540	53.7	54.2	97.1
disagree	23	2.3	2.3	99.4
strongly disagree	6	0.6	0.6	**100.0**
don't know/can't say	10	1.0	**100.0**	
Total	**1006**	**100.0**		

Mean=1.61, Mode=2, Median=2.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 13j: The condition of forests has not been getting worse in the past five years in Armenia

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly agree	80	8.0	9.6	9.6
agree	248	24.7	29.7	39.3
disagree	337	33.5	40.4	79.6
strongly disagree	170	16.9	20.4	**100.0**
don't know/can't say	171	17.0	**100.0**	
Total	**1006**	**100.0**		

Mean=2.71, Mode=3, Median=3.00 *(1=strongly agree and 4=strongly disagree; don't know/can't say excluded)*

Table 14: Means for ratings given to problems that contribute to deforestation in Armenia

(in descending order)

	Mean	Mode	Median
Wood businesses that export wood outside Armenia	9.38	10	10.00
Wood businesses that sell wood in Armenia	9.13	10	10.00
People outside villages who cut wood to sell	8.90	10	10.00
Villagers who cut wood to sell to others	8.13	10	9.00
Villagers who cut wood for their own use	6.71	10	7.00
Grazing of animals	3.53	1	2.00

(1=not a problem at all and 10=a very important problem; don't know and don't understand excluded)

Table 15: Means for ratings given to solutions that might help to save forests in Armenia

(in descending order)

	Mean	Mode	Median
Making gas available to all Armenian households	9.49	10	10.00
Government providing monies to plant trees and restore forests	9.34	10	10.00
Providing households with low interest loans to connect to gas	9.03	10	10.00
Government providing monies to guard forests	8.84	10	10.00

(1=not a solution and 10=a perfect solution; don't know and don't understand excluded)

Table 16: Reasons respondents or their families go to forests in Armenia

		Yes	No	Total
Relaxation and recreation	Count	727	279	1006
	percentage	*72.3*	*27.7*	*100.0*
Gathering non-wood products like herbs	Count	497	509	1006
	percentage	*49.4*	*50.6*	*100.0*
Gathering wood for own home fuel use	Count	140	866	1006
	percentage	*13.9*	*86.1*	*100.0*
Cutting wood for sale to others	Count	14	992	1006
	percentage	*1.4*	*98.6*	*100.0*

Table 17: Gender		
	Frequency	Percent
male	324	32.2
female	682	67.8
Total	**1006**	**100.0**

Table 18: Age		
	Mean	Median
	44.96	45.00
	Min	Max
	18	75

Crosstab 1a: Respondents would report if observed illegal cutting of forest by urban and rural				
		Urban	Rural	Total
yes	Count	422	254	676
	percentage	*64.9*	*71.3*	*67.2*
no	Count	169	76	245
	percentage	*26.0*	*21.3*	*24.4*
don't know/can't say	Count	59	26	85
	percentage	*9.1*	*7.3*	*8.4*
Total	**Count**	**650**	**356**	**1006**
	percentage	***100.0***	***100.0***	***100.0***

Crosstab 1b: Respondents would report if observed illegal cutting of forest by Yerevan and marz				
		Yerevan	Marz	Total
yes	Count	224	452	676
	percentage	*63.8*	*69.0*	*67.2*
no	Count	94	151	245
	percentage	*26.8*	*23.1*	*24.4*
don't know/can't say	Count	33	52	85
	percentage	*9.4*	*7.9*	*8.4*
Total	**Count**	**351**	**655**	**1006**
	percentage	***100.0***	***100.0***	***100.0***

Crosstab 2: What is the ONE major negative effect of deforestation by forest adjacent and non-forest adjacent villages

		Forest adjacent	Non-forest adjacent	Total
drying of springs and rivers	Count	48	27	75
	percentage	*29.4*	*14.0*	*21.1*
desertification	Count	32	56	88
	percentage	*19.6*	*29.0*	*24.7*
micro-climate change	Count	32	56	88
	percentage	*19.6*	*29.0*	*24.7*
loss of biodiversity	Count	17	22	39
	percentage	*10.4*	*11.4*	*11.0*
loss of non-wood products such as mushrooms, herbs and berries	Count	12	8	20
	percentage	*7.4*	*4.1*	*5.6*
landslides	Count	8	7	15
	percentage	*4.9*	*3.6*	*4.2*
erosion and soil loss	Count	5	9	14
	percentage	*3.1*	*4.7*	*3.9*
increase of salt in soil	Count	5	5	10
	percentage	*3.1*	*2.6*	*2.8*
none	Count	1	1	2
	percentage	*0.6*	*0.5*	*0.6*
don't know/can't say	Count	3	2	5
	percentage	*1.8*	*1.0*	*1.4*
Total	**Count**	**163**	**193**	**356**
	percentage	***100.0***	***100.0***	***100.0***

Crosstab 3a: Respondents or their families go to forests in Armenia for gathering wood for own home fuel use by urban and rural

		Urban	Rural	Total
yes	Count	32	108	140
	percentage	*4.9*	*30.3*	*13.9*
no	Count	618	248	866
	percentage	*95.1*	*69.7*	*86.1*
Total	**Count**	**650**	**356**	**1006**
	percentage	***100.0***	***100.0***	***100.0***

Crosstab 3b: Respondents or their families go to forests in Armenia for gathering wood for own home fuel use by Yerevan and marz

		Yerevan	Marz	Total
yes	Count	10	130	140
	percentage	*2.8*	*19.8*	*13.9*
no	Count	341	525	866
	percentage	*97.2*	*80.2*	*86.1*
Total	**Count**	**351**	**655**	**1006**
	percentage	***100.0***	***100.0***	***100.0***

Crosstab 3c: Respondents or their families go to forests in Armenia for gathering wood for own home fuel use by forest adjacent and non-forest adjacent villages				
		Forest adjacent	Non-forest adjacent	Total
yes	Count	95	13	108
	percentage	*58.3*	*6.7*	*30.3*
no	Count	68	180	248
	percentage	*41.7*	*93.3*	*69.7*
Total	**Count**	**163**	**193**	**356**
	percentage	***100.0***	***100.0***	***100.0***

Crosstab 3d: Respondents or their families go to forests in Armenia for gathering wood for own home fuel use by villages with and without gas				
		Gas to village	No gas to village	Total
yes	Count	67	41	108
	percentage	*27.3*	*36.9*	*30.3*
no	Count	178	70	248
	percentage	*72.7*	*63.1*	*69.7*
Total	**Count**	**245**	**111**	**356**
	percentage	***100.0***	***100.0***	***100.0***

Crosstab 4: Respondents or their families go to forests in Armenia for cutting wood for sale to others by forest adjacent and non-forest adjacent villages				
		Forest adjacent	Non-forest adjacent	Total
yes	Count	5	0	5
	percentage	*3.1*	*0.0*	*1.4*
no	Count	158	193	351
	percentage	*96.9*	*100.0*	*98.6*
Total	**Count**	**163**	**193**	**356**
	percentage	***100.0***	***100.0***	***100.0***