



# SOCIO-ECONOMIC STRUCTURE OF THE FOREST VILLAGES

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PERCEPTIONS,  
NEEDS,  
OPPORTUNITIES AND  
STRATEGIES

# ABOUT



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## CON- TENTS

Purpose Of The Study	4
Scope/Research Method	5
Findings	9
Overview of the Forest Villages	9
Categorization of the Forest Villages	12
Socio-Economic Structure of the Forest Villages	16
Main Sources of Income for the Forest Villages	16
Agriculture and Animal Husbandry	20
Physical Structure of the Houses	22
Heating, Water Heating and Firewood Consumption	32
Population and Migration Dynamics in the Forest Villages	35
Social Life, Gender and Access to the Resources in the Forest Villages	43
Perception and Attitudes Towards Gender	43
Social Life in the Villages	44
Time Spent Outside the Villages	46
Division of Labor in the Households and Production	48
Income Distribution and Sharing	53
Forest Villagers' Perception of Climate Change	55
Forestry Activities and Relationship with the Forests	59
Forest Villagers' Perception of Forest	59
Protection and Use of Forest	62
Forest Villagers' Perception of the GDF and the FVRD	65
Perception of the General Directorate of Forestry (GDF)	65
Perception of the Forest-Village Relations Department (FVRD)	68
Access to the Welfare, Health and Public Services	70
Conclusion	74
Annexes	77

## TABLES

<b>Table 1.</b> Populations of the Forest Villages within the Scope of the Project	5
<b>Table 2.</b> The Villages Where the Quantitative Field Study is Conducted	7
<b>Table 3.</b> Main Sources of Livelihood by Village Categories	17
<b>Table 4.</b> Main Sources of Livelihood by Regions	18
<b>Table 5.</b> Ownership of Household Goods by Village Categories	30
<b>Table 6.</b> Ownership of Household Goods by Regions	31
<b>Table 7.</b> Factors Contributing to the Forest Value by Categories	61
<b>Table 8.</b> Forest Villagers' Expectation of Support by Categories	69
<b>Table 9.</b> Access to the Welfare, Health, and Public Services by Village Categories and Gender	72
<b>Table 10.</b> Welfare, Healthcare and Access Clusters by Village Categories	73
<b>Table 11.</b> Welfare, Healthcare and Access Clusters by Gender	73



## GRAPHS

<b>Graph 1.</b> The Number of Households in the Forest Villages	9	<b>Graph 30.</b> Water Drainage System in the Region Forest Villages	28
<b>Graph 2.</b> Altitudes of the Village Centers	10	<b>Graph 31.</b> Usage of Running Water in the Region Forest Villages	28
<b>Graph 3.</b> Population Living Under the Hunger Threshold by Altitudes	10	<b>Graph 32.</b> Ownership of Household Goods	29
<b>Graph 4.</b> Transportation to the Centers Where the Basic Needs Are Met	11	<b>Graph 33.</b> House Heating Systems by Village Categories	32
<b>Graph 5.</b> Seasonal Changes in the Population	11	<b>Graph 34.</b> House Heating Systems by Regions	33
<b>Graph 6.</b> The Share of Forest Income in Total Income	11	<b>Graph 35.</b> Water Heating Systems by Village Categories	33
<b>Graph 7.</b> The Number of Villages and Households by Village Categories	13	<b>Graph 36.</b> Water Heating Systems by Regions	34
<b>Graph 8.</b> Village Categories by Regions	14	<b>Graph 37.</b> Firewood and Coal Consumption (Tons) by Village Categories	34
<b>Graph 9.</b> Village Categories by Article 31 and 32 of the Forest Law	14	<b>Graph 38.</b> Firewood and Coal Consumption (Tons) by Regions	35
<b>Graph 10.</b> Forest Categories (Multiple Correspondence Analysis/5 Variables)	15	<b>Graph 39.</b> Age Distribution by Village Categories	36
<b>Graph 11.</b> Main Sources of Income for the Households in the Forest Villages	16	<b>Graph 40.</b> The Number of Household Members by Village Categories	37
<b>Graph 12.</b> Shares of the Income Sources in the Household Budget	16	<b>Graph 41.</b> The Number of Family Members Living Outside the Household by Village Categories	38
<b>Graph 13.</b> Distribution of Income/Expenses by Village Categories	19	<b>Graph 42.</b> Percentage of Migration from the Households by Regions	38
<b>Graph 14.</b> Distribution of Income/Expenses in the Regions	19	<b>Graph 43.</b> People Planning to Migrate from the Forest Villages	39
<b>Graph 15.</b> Agricultural Land Ownership by Village Categories and Regions	20	<b>Graph 44.</b> The Percentage of Households with a Family Member Returned to Village from the City	42
<b>Graph 16.</b> Land Sizes (Acreage) by Village Categories and Regions	21	<b>Graph 45.</b> Perceptions and Attitudes Regarding Gender	43
<b>Graph 17.</b> Distribution of the Agricultural Land Deed by Gender	21	<b>Graph 46.</b> Frequency of Going Out of Village in Forest Villages	46
<b>Graph 18.</b> Ownership of Animals in the Households	21	<b>Graph 47.</b> Frequency of Going Out of Village by Gender	46
<b>Graph 19.</b> Construction Materials of the Houses by Village Categories	22	<b>Graph 48.</b> Reasons for Going Out of Village by Gender	47
<b>Graph 20.</b> Construction Materials of the Houses by Regions	22	<b>Graph 49.</b> Number of Days Spent Outside the Village in the Last Year	48
<b>Graph 21.</b> Floor Coverings by Village Categories	23	<b>Graph 50.</b> People by Village Categories Who Stated that They Were Affected by the Climate Change	55
<b>Graph 22.</b> Wood Flooring by Regions	23	<b>Graph 51.</b> People by Regions Who Stated that They Were Affected by the Climate Change	56
<b>Graph 23.</b> Roof Materials in the Forest Villages	24	<b>Graph 52.</b> People Who Stated that Factors Contributing to the Climate Change Have Increased	57
<b>Graph 24.</b> Roof Materials by Village Categories	24	<b>Graph 53.</b> Reasons for Quitting the Production of Crops	58
<b>Graph 25.</b> Roof Materials by Regions	25	<b>Graph 54.</b> Forest Villagers' Perception of Forest Value-Cognitive Map	60
<b>Graph 26.</b> Physical Structures of the Village Houses (Multiple Correspondence Analysis/4 Variables)	26	<b>Graph 55.</b> Number of Forestry workers in a Household by Village Categories	62
<b>Graph 27.</b> House Sizes (m <sup>2</sup> ) by Regions	26	<b>Graph 56.</b> Forestry Activities Conducted in the Last Decade	63
<b>Graph 28.</b> The Number of Floors by Regions	27	<b>Graph 57.</b> Forestry Activities Conducted in the Last Decade by Village Categories	64
<b>Graph 29.</b> Location of the Toilet by Regions	27	<b>Graph 58.</b> Forest Villagers' Perception on the Reputation of the General Directorate of Forestry-Cognitive Map	66
		<b>Graph 59.</b> Reputation of the GDF by categories	67
		<b>Graph 60.</b> Reputation of the GDF by demographics	67
		<b>Graph 61.</b> Use of FVRD Loan by Gender	68
		<b>Graph 62.</b> Reputation of The Forest-Village Relations Department by categories	69
		<b>Graph 63.</b> Access to the Welfare, Health and Public Services	71

## PURPOSE OF THE STUDY

The main purpose of the study is to map the profiles of the forest villagers living in the villages within the provinces of Kahramanmaraş, Mersin, Antalya, Muğla and Adana for Nature Conservation Centre, which is one of the project partners of the “Integrated Approach to Management of Forests in Turkey, with Demonstration in High Conservation Value Forests in the Mediterranean Region (GEF V)” Project implemented by UNDP Turkey, Ministry of Agriculture and Forestry and the General Directorate of Forestry, thus realizing a cluster analysis for these villages and produce strategic information which will contribute to forestry policies pertaining to the region.

The sub-objectives of the research can be listed as the following:

- To explore the forest villagers’ perception of the General Directorate of Forestry (GDF) and the Forest-Village Relations Department
- To identify the factors that increase and decrease the reputation of the GDF and the Forest-Village Relations Department

- To map the region’s socio-economic and cultural structure, identify main sources of livelihood and reveal the transitive nature of the sources of livelihood
- To explore the decision-making processes and labor division in terms of gender
- To discover the gender-based possibilities and limitations regarding the access to the resources and services
- To provide in-depth qualitative information about the migration dynamics and reasons for migration in the region.
- To reveal the differentiation in terms of benefiting from forest (firewood and other forest products)
- To identify the sources used by the households for heating/water heating and how they obtain these sources, to assess the level of consumption of wood for heating.
- To understand how climate change affects the lives of the forest villagers.
- To map the perceptions and behaviors regarding the forest protection, identify the similarities and differences
- To describe the forest villagers’ needs and demands for social and cultural services

The research covered 171 villages in total, including both villages within forest (Article 31) and villages adjacent to forest (Article 32) in the districts of Andırın, Gülnar, Gazipaşa, Köyceğiz and Aladağ located within the project provinces of Kahramanmaraş, Mersin, Antalya, Muğla and Adana. Of these villages, 141 villages fell into the category of villages within forest and remaining villages fell into the category of villages adjacent to forest. Currently, 86,558 citizens are registered in these villages (See Table 1). The research was designed with a sample size that represents the size of the region by using a quantitative and exploratory approach in order to reveal the different qualities of these villages.

Table 1. Populations of the Forest Villages within the Scope of the Project <sup>1</sup>

	POPULATION			NUMBER OF VILLAGES			PERCENTAGE BY POPULATION		PERCENTAGE BY THE NUMBER OF VILLAGES	
	ARTICLE 31	ARTICLE 32	TOTAL	ARTICLE 31	ARTICLE 32	TOTAL	ARTICLE 31	ARTICLE 32	ARTICLE 31	ARTICLE 32
GAZİPAŞA	17929	4083	22012	34	6	40	81%	19%	85%	15%
POS1	11626	386	12012	23	2	25	97%	3%	92%	8%
KÖYCEĞİZ	12991	509	13500	16	1	17	96%	4%	94%	6%
ANDIRIN	17192	8487	25679	35	14	49	67%	33%	71%	29%
GÜLNAR	10842	2513	13355	33	7	40	81%	19%	83%	18%
TOTAL	70580	15978	86558	141	30	171	82%	18%	82%	18%

Within the scope of the research, the following groups were reached in the forest villages by using different research methods during the different stages.

- Villagers
- Village mukhtars (neighborhood representatives)
- Women

## SCOPE/RESEARCH METHOD

- Village community leaders and distinguished members of the village

The Research on Socio-Economic Structure of the Forest Villages has both exploratory and descriptive characteristics. For this reason, the researchers adopted a mixed research method containing both quantitative and qualitative research methods. The research was conducted in three stages.

The stages of the research are as follows:

1. Stage: Case Study
2. Stage: In-Person Survey and Cognitive Mapping Application
3. Stage: In-Depth and In-Person Interviews

Furthermore, different tools for data collection were used during the stages mentioned above. Data collection tools and number of the participants were elaborated below.

### Case Study:

At the first stage of the research, which is the case study, researchers determined the selection criteria for selecting the villages for the subsequent quantitative and qualitative stages of the research. For this purpose, the researchers visited 9 villages (2 in Andırın, 1 in Pos, 1 in Gülnar, 2 in Gazipaşa and 3 in Köyceğiz) in 5 areas. During these visits, 65 in-depth interviews were conducted with the village mukhtars, villagers, and chiefs from the Forest District Directorates.

<sup>1</sup> Aladağ central district of Adana province and villages under the Aladağ central district are within the jurisdiction of the Pos Forest District Directorate and this area will be called as “Pos” in this report.

Following issues were discussed during in-depth interviews:

1. Unique qualities of the area
  - a. The profiles of villagers
  - b. Village economy and main sources of income
  - c. Forestry assets
  - d. Forest Protection and Relationship with the Forest
    - i. Illegal cut
    - ii. Fire fighting
    - iii. Forestation
  - e. Climate, altitude and geographical characteristics
2. Perception of the GDF and Forest-Village Relations Department
3. Gender
  - a. Gender-based labor division
  - b. Access to the resources
  - c. Social life
4. Migration
5. Youth
  - a. Employment
  - b. Education
  - c. Social life
6. Perception of climate change
7. Access to the services

At the end of the case of study, a workshop was conducted with the participation of

the General Directorate of the Forestry and UNDP Turkey to evaluate the results of the case study. During the workshop, the participants identified the criteria for selection of the villages to be reached at the subsequent stages of the research.

### In-Person Surveys and Cognitive Mapping Application

The second stage of the research was conducted simultaneously in two phases. During the phase of surveys, in total 604 households were reached in 40 villages of 5 areas. Since the population of forest villagers in the region was 86558, it can be said that sample size represented the research population with a 95% confidence level and  $\pm 4\%$  margin of error. 82% of the villages in the region fell into the category of villages in forest and %18 of the villages fell into the category of villages adjacent to forest. The ratio of the villages reached within the scope of the research was 75% to 25%.

The number of villages to be reached was specified in proportion to the number of villages in the region. Accordingly, the researchers identified the numbers of villages, where in-depth interviews were conducted, as follows: 10 villages in Gazipaşa, 6 villages in Pos, 4 villages in Köyceğiz, 11 villages in Andırın and 9 villages in Gülnar. Each in-depth interview took approximately 35 minutes. Table 2 shows the villages and the number of households where the surveys and interviews in person took place.

Table 2. The Villages Where the Quantitative Field Study is Conducted

Region	Village Name	Cluster	Category	Population	Altitude	Number of Interviews
Pos	Boz tahta	Southern villages	31. Article	326	230	5
Pos	Ceritler	Southern villages	31. Article	1043	881	21
Pos	Kızıldam	Northern villages	31. Article	620	1,163	13
Pos	Kıcak	Pos Villages	31. Article	842	995	15
Pos	Dölekli	Pos Villages	31. Article	690	800	14
Pos	Gerdibi	Pos Villages	31. Article	1171	922	23
Andırın	Alanlı	Andırın Center	31. Article	560	850	15
Andırın	Haciveliuşağı	Andırın Center	31. Article	486	545	12
Andırın	Efriağızlı	Andırın Center	31. Article	880	691	26
Andırın	Darıovası	Andırın Center	31. Article	863	787	28
Andırın	Erenler	Lower Andırın	32. Article	325	250	10
Andırın	Gökahmetli	Lower Andırın	32. Article	312	153	10
Andırın	Torun	Lower Andırın	31. Article	596	806	20
Andırın	Köleli	Lower Andırın	31. Article	258	190	8
Andırın	Yeniköy	Upper Andırın	31. Article	535	1,143	16
Andırın	Altınboğa	Upper Andırın	31. Article	224	1,153	7
Andırın	Kargıçayırı	Upper Andırın	31. Article	526	1,269	16
Gazipaşa	Çile	Doğanca Şefliği	31. Article	230	654	4
Gazipaşa	Yeniköy	Northern Mountain Villages	31. Article	791	1,143	14
Gazipaşa	Karatepe	Northern Mountain Villages	31. Article	758	471	16
Gazipaşa	Göçük	Coastal Villages	31. Article	275	273	6
Gazipaşa	Kırahmetler	Coastal Villages	31. Article	245	145	4
Gazipaşa	Beyobası	Coastal Villages	32. Article	2130	80	41
Gazipaşa	Korubaşı	Coastal Villages	32. Article	1510	60	28
Gazipaşa	Karaçukur	Coastal Villages	31. Article	143	463	2
Gazipaşa	Hasdere	Coastal Villages	32. Article	690	74	14
Gazipaşa	Aydıncık	Coastal Villages	31. Article	1017	53	20
Gülnar	Ardıçpınar	South-west Villages	31. Article	199	1,015	10
Gülnar	Gezende	North-west Villages	31. Article	518	702	24
Gülnar	Çukurkonak	North-west Villages	32. Article	125	1,094	9
Gülnar	Taşoluk	North-west Villages	32. Article	152	1,307	6
Gülnar	Çukurasma	Central Villages	31. Article	642	1,060	29
Gülnar	Mollaömerli	Central Villages	31. Article	111	888	6
Gülnar	İshaklar	Central Villages	31. Article	633	1,163	29
Gülnar	Tırnak	Central Villages	31. Article	240	595	11
Gülnar	Korucuk	Central Villages	31. Article	272	556	12
Köyceğiz	Çayhisar	Mountain Villages	31. Article	580	438	8
Köyceğiz	Yangı	Plain Villages	32. Article	1376	21	18
Köyceğiz	Döğüşbelen	Plain Villages	32. Article	1597	22	22
Köyceğiz	Köyceğiz	Plain Villages	32. Article	959	18	12



## FINDINGS

At the second phase of this stage, the researchers conducted a cognitive mapping work with the villagers in order to explore the villagers' perception of the GDF and Forest. During the mapping work conducted in 5 regions, 70 forest villagers were reached and the villagers were made to draw a conceptual network map based on the concept of the Value of the General Directorate of Forestry and Value of the Forest.

The following questions were asked to the participants in the perception maps.

### 1. Central concept: Value of the GDF

How do you see the General Directorate of Forestry and the Forest District Directorate? Can you map and relate the factors increasing and decreasing the value of the General Directorate of the Forestry?

### 2. Central concept: Value of the Forest

In your opinion, what are the factors that increase the value of forest? What are the positive and negative factors affecting these, can you map these factors by relating them with each other?

At this stage of analysis, the perception maps were evaluated by disaggregating data by gender, age and category of the village.

During the stage of in-person surveys, interviews were also made with the mukhtars and "village information cards" were filled.

Village information cards included the following information about the villages:

- Distance to the center of district
- Distance to the nearest district center
- Population in winter
- Population in summer
- Number of households
- Average/minimum/maximum income of the households
- Average expenses
- Sources of income (agriculture, forestry, animal husbandry)
- Infrastructure facilities
- Heating/Water Heating
- Access to the services (primary health care center, hospital, primary education, secondary education, high school, college, market, place of worship etc.)

### In-Depth and In-Person Interviews and Ethnographic Study

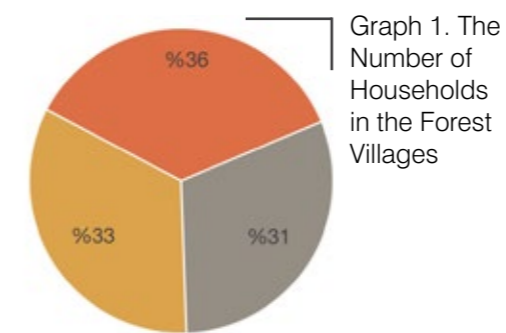
At the last stage of the research, which is the stage of in-depth interview and ethnographic study, interviews were conducted with the participants from the villages where the quantitative researches were done. At this stage, interviews were conducted with 40 villagers in total and researchers spent a day with 15 female villagers in order to observe their production activities, social lives, social relationships and daily routines.

### Overview of the Forest Villages

After evaluating the data gathered during the case study and quantitative fieldwork conducted within the scope of the Socio-Economic Structure of the Forest Villages: Perceptions, Needs, Possibilities and Strategies, it was observed that following criteria were the most effective for understanding differences between the forest villages:

- The share of forest income in total income
- The diversification of non-forest sources of income/complementary sources of income
- Demographics
- Altitude – Climate - Land structure

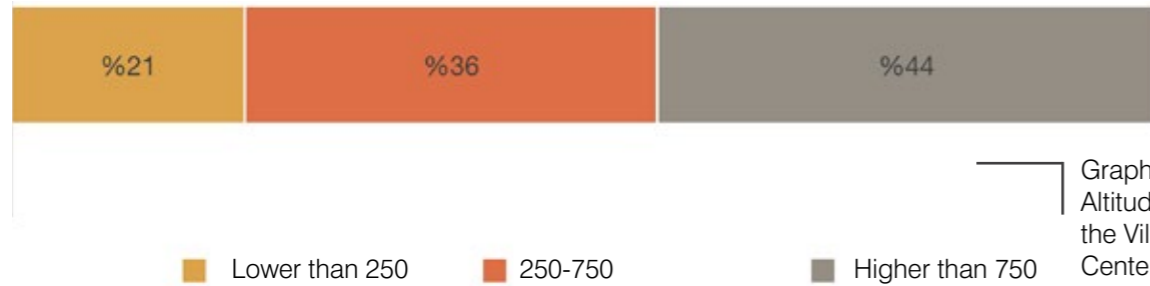
In the region, 69% of the villages had less than 250 households while one-third of the villages had less than 100 households (See Graph 1). The population was less than 500 in 45% of the villages and less than 250 in 25% of the villages in the region..<sup>2</sup>



● Less than 99 households ● 100-250 households ● Over 250 households

Altitudes of the village centers were found to be important in terms of economic and demographic characteristics of the villages determining several characteristics from the demographic structure of the villages to the sources of income. As it will be discussed in the forthcoming chapters, altitude of a village is also significant factor affecting the climate, land structure and thus main sources of income (agriculture, animal husbandry, forestry, beekeeping, tourism etc.) of the village. It also shapes the demographic structure of the village on the basis of access to the basic services and sources of income. Mountain villages are usually seen as villages with the highest altitudes, but this is not the case for all regions. The average altitude of the all villages (176 forest villages) covered in the research was 670 meters. The villages with the highest altitudes are located in Gülnar (875 meters), Andırın (850 meters) and Pos (783 meters) respectively. The villages in Gazipaşa (394 meters) and Köyceğiz (292 meters) have lower altitudes than the villages in other areas. 57% of 40 village centers, where the fieldwork was conducted within the scope of the research, located below 750 meters. 21% had an altitude even lower than 250 meters (See Graph 2). The distribution of altitudes in the whole region was consistent with the distribution of the altitudes of the villages included in the sample size (See Annex 5). Characteristics of the villages at lower altitudes were different from the characteristics of the villages at higher altitudes in terms of relationship with both forest and city.

<sup>2</sup>Houses of the people, who do not reside in the villages and who are mostly the owners of mountain houses were also included in the number of households.



Graph 2. Altitudes of the Village Centers

"The income level increases in places, which are closer to the sea. In these places, the villagers cultivate bananas instead of apples and pears, and agricultural activities also change."

Gülner, District Directorate, Chief

"Most of the villagers engage in animal husbandry. There are also villagers engaged in woodcutting. On the upper side, for example in Çitarvar, people make a living from the cherries, they even export the cherries."

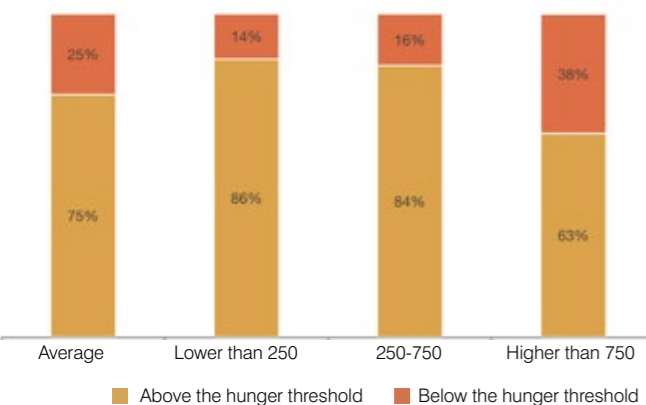
Kahramanmaraş, The Regional Directorate, Chief

When the altitudes of the villages are examined, it can be seen that sources of income are less diversified in the villages at higher altitudes, while the average household income reduced. 25% of

the households in the forest villages generated income even lower than the hunger threshold. For the villages at altitudes equal to or less than 750 meters, this ratio was 15% while it was 38% for the villages at altitudes equal to or higher than 750 meters. (See Graph 3)

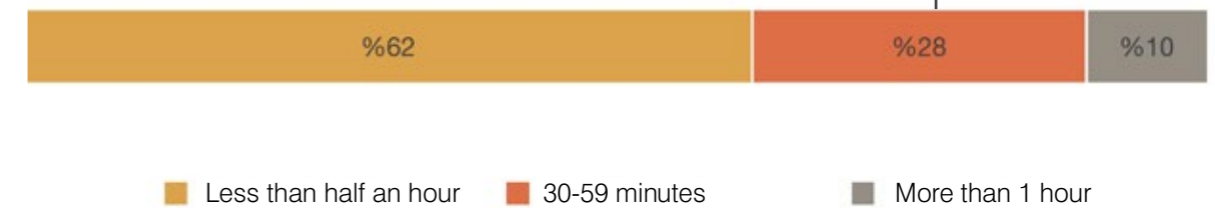
Furthermore, it can be said that village altitude is also related to another indicator, which is travel time to the nearest district center. Travel time to the nearest district center is also one of the most important indicators for accessing the basic services like healthcare and education. Within the scope of the research, the researchers asked the village mukhtars that how long it took to go to their district's center and to the nearest district center where they usually catered their basic needs. It can be seen that 10% of the forest villagers lived 1 hour away and 62% half an hour away from the nearest district center where they catered their basic needs.

(See Graph 4). In line with this finding, the most of the villagers can easily access to the center, which shows their potential for interactions. In other words, it can be said that villagers' do not have closed and isolated lives; instead they have strong connections with the outside world.

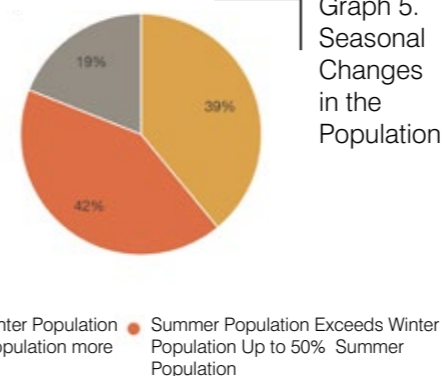


Graph 3. Population Living Under the Hunger Threshold by Altitudes

Graph 4. Transportation to the Center Where the Basic Needs Are Met<sup>4</sup>



Transhumance is widespread in the region. Thus, the populations of villages significantly vary from winters to summers. During the interviews with the mukhtars, both winter and summer populations of the villages were taken separately. As to the seasonal changes in the village populations, 39% of the villages' populations were equal in summer and winter, while 61% of the villages had a higher population in summers. In 20% of the villages, the summer population exceeded the winter population by more than 50% (See Graph 5).



Graph 5. Seasonal Changes in the Population

When we examined the share of forest income in total village income, we found that share of forest income was relatively low in total village income. The forest villages were divided into three categories by the level of shares of forest income in total income:

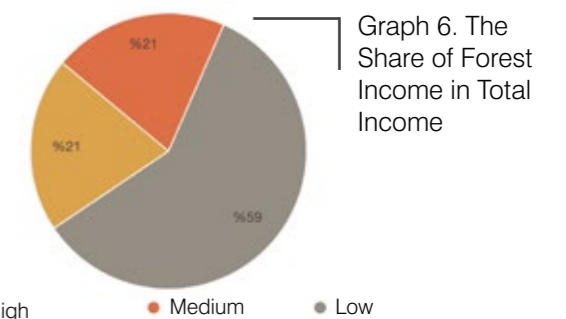
**Low level:** The villages were considered "villages with low forest incomes" when the share of total forest income (including forest labor, beekeeping revenues, wood

products and forest products other than the wood products) was less than 1% of total income of the village.

**Medium level:** The villages were considered "villages with medium forest income" when the share of total forest income (including forest labor, beekeeping revenues, wood products and forest products other than the wood products) was less than 15% of total village income.

**High level:** The villages were considered "villages with high forest income" when the total forest income (including forest labor, beekeeping revenues, wood products and forest products other than the wood products) was higher than 15% of total village income.

According to this categorization, 59% of the forest villages generated forest incomes with less than 1% of their total incomes. In other words, almost 60% of the villages had almost no economic relationship with forest. Approximately one-fifth of the forest villages had relatively higher share (over 15%) of forest income in total income.



Graph 6. The Share of Forest Income in Total Income

<sup>3</sup>It is calculated based on the hunger threshold as of October 2017, declared as 1.577 TL by the Confederation of Turkish Trade Unions. <sup>4</sup>Average travel time was calculated as 15 minutes for 10 kilometers on the earth road and asphalt road.



## CATEGORIZATION OF THE FOREST VILLAGES

One of the main purposes of this research was to classify the forest villages in the region in order to develop a categorization model that can be applied to other regions in Turkey and to analyze the region's socio-demographic structure, sources of income, household structure, relationship with the forest, possibilities and limitations comparatively based on this categorization. In line with this purpose, the main variables differentiating the villages were identified and the results were analyzed by using variables obtained by data gathered from surveys conducted with the villagers in person and in-depth interviews with the mukhtars. As a result of the dimension reduction, the following main variables were identified as the main reasons of diversification among the villages.

- The level of economic relationship with the forest
- The number of households in village
- Altitude of the village center
- Village's distance from the nearest district center where the basic services are delivered

A cluster analysis was conducted by using these four variables identified as the most differentiating variables and 3 different village types were identified as a result of this analysis. (See Annex 1. Cluster Model). We examined the cross-tables with three different village clusters identified as a result of the cluster analysis and both four variables forming that cluster and other socio-demographic and economic variables. As a result of the examination, the villages were categorized in a way that the name of the categories would describe the villages' general characteristics:

It can be said that main characteristic of the first village type, which is the central village, is the village's higher level of access to the services. The central villages are closer to the city centers and it takes less than thirty minutes to access the center. Furthermore, most of the central villages located at lower altitudes. More than half of these villages (53%) located at an altitude less than 250 meters. The households in these villages generated their income from more diversified sources. The villagers have higher potential to substitute their revenues with different sources of income. Incomes generated from the trade, animal husbandry, civil service jobs, labor and agriculture can be seen in the same household. The central villages' economic relationship level with the forest is limited, compared to the other categories also due to the effect of diversification of income sources. These villages are usually more populated due to their proximity to the center as they provide easier access to the basic services and diversification of the income sources. There are more than 250 households in approximately three-fourths of the central villages (73%). The central villages offer more expansive opportunities compared to other forest village types.

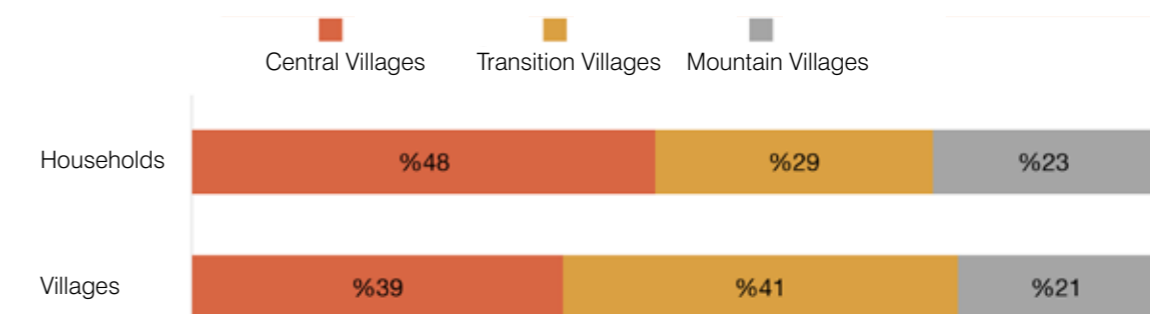
They also have a population older than the average population in Turkey. In 73% of the villages, old age population rate is above the average in Turkey.

**Transition villages** are villages located at medium-level altitudes. 75% of these villages located at altitudes between 250-500 meters and the remaining 25% located at altitudes above 500 meters. Although their access to the basic services is not as easy as central villages, there are public institutions like primary schools and places of worship in the transition villages. More than half of these villages are more than half an hour away from the nearest district center. It can be said that these villages' populations are smaller than the populations of central villages. There are less than 100 households in 75% of these villages. Although their sources of income are not as diversified as the central villages, there is no dependency to one source of income. Agricultural activities and animal husbandry are also often seen in these villages. The percentage of old age population is similar to the central villages. The percentage of old age population in 74% of these villages is above the average in Turkey.

Lastly, the **mountain villages** are different from the villages in other categories in terms of their geographical characteristics, socio-demographic profiles and economic structures. Firstly, the mountain villages have limited access to the basic services compared to two other village categories. There are no health care or educational institutions in most of these villages. The villagers meet their needs for services from the villages offering these services.

As to the altitudes, all of them are located above 750 meters, which led to limited agricultural possibilities. These villages' main sources of income are retirement income, social assistance, and financial support from the family, animal husbandry and forest activities. Compared to other village categories, their level of economic relationship with the forest is higher. Compared to other village types, the number of households is smaller in the mountain villages. There are 100-250 houses in 87% of the villages. The mountain villages have older populations compared to two other forest village types. In all of the mountain villages, the percentage of old age population is higher than Turkish average.

Approximately half of the households (58%) in the region located in the central districts and one-fourth of the households are located in the mountain villages. When the distribution of household numbers by categories were examined, it can be seen that 39% of the villages fell into the central village category and 21% of the villages fell into the mountain village category. The difference between the households and the number of villages caused by the fact that the number of households in the central villages was greater than the number of households in other village categories. While 39% of the region villages are comprised of central villages, almost half of the region villages are located in the central villages (See Graph 7)

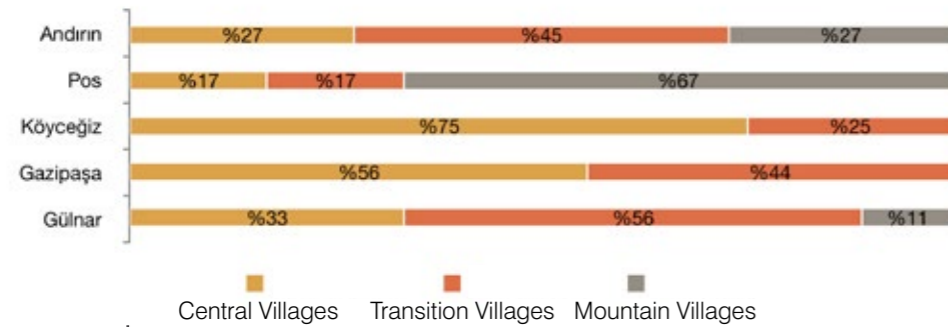


Graph 7. Number of Villages and Households by Village Categories

Köyceğiz and Gazipaşa are located in areas heavily populated by the central villages. Three-fourths of the Köyceğiz villages and 56% of the Gazipaşa villages fell into the category of central village.

Andırın and Gülnar showed similarities in terms of distribution of the village categories. Almost half of the villages in these areas fell into the category of

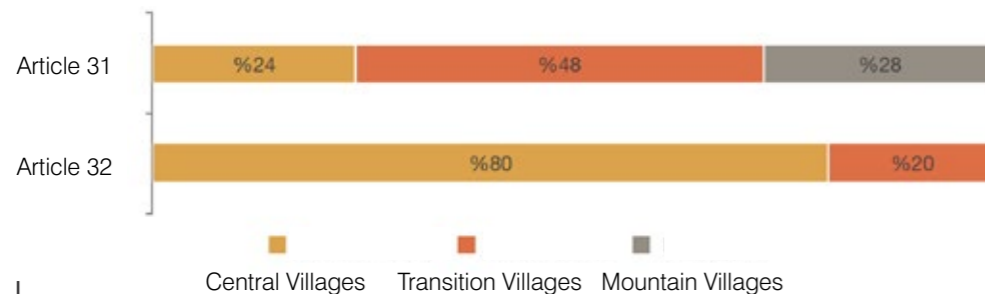
transition villages. It can be seen that Pos is the most different area among all these areas. While 67% of the villages fell into the category of mountain villages, the lowest share of central villages identified in Pos. To sum up, Köyceğiz is heavily populated by the central villages, Andırın and Gülnar are heavily populated by the transition villages, and Pos is heavily populated by the mountain villages (See Graph 8).



Graph 8. Village Categories by Regions

According to the classification of forest villages defined in the Forest Law, most of the Article 32 villages (villages adjacent to forest) fell into the category of central village. 32. 80% of the Article 32 villages fell into the category of central villages and %20 fell into the transition village category. 31. Article 31 villages (villages in forest) are composed of villages from all

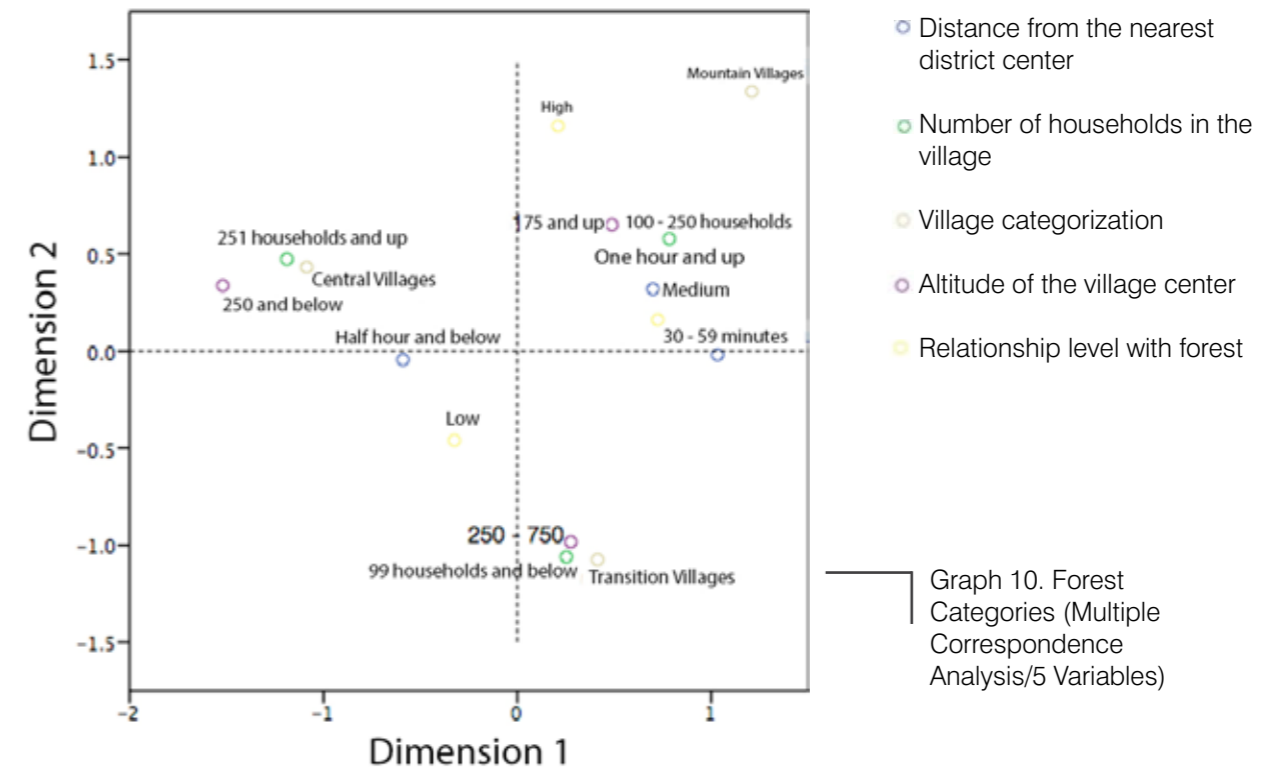
three categories: while half of them (48%) are transition villages, the remaining half distributed among the central villages and mountain villages (See Graph 9). As a result, the village classification developed within the scope of the research differed from the classification based on productive forestry assets within the village borders defined in the Forest Law.



Graph 9. Village Categories by Article 31 and Article 32 of the Forest Law

To sum up, when the village categorization was examined with the multiple correspondence analysis together with the other four variables included in the cluster analysis, it can be seen that 3 village types were different from each other to a great extent. The central villages usually have more than 250 households, less than 250-meter altitude and less

than half an hour distance from the center. The transition villages have less than 100 households, located between 250-750-meter altitudes and maintained low level of economic relationship with forest. The mountain villages have altitudes above 750 meters, 30 minute-distance from the center and high level of economic relationship with the forest (See Graph 10).



# SOCIO-ECONOMIC STRUCTURE OF THE FOREST VILLAGES

## Main Sources of Income for the Forest Villages

Agriculture is the main source of income for the forest villages in the region. Agriculture is the main source of income for 26% of the households and retirement income is the main source of income for 24% of the households. These are followed by salaries/wages 5, social assistance and animal husbandry. When the forest revenues are examined, it can be seen that only 2% of the villages generate income from the forest and 1% from beekeeping (See Graph 11).

When the income distribution of the households is examined, it can be seen that agriculture has the highest share again. While one-fourth of the household income was generated from agriculture, 24% generated from trade. Social assistance and retirement income constituted 27% of the total household income and animal husbandry constituted 10% of it. The share of forest income is low in the total income. Revenues from the forest only constituted 2% of the household budgets in the forest villages (See Graph 12).

Agricultural activities are the main source of livelihood for approximately one-third of the households in central villages. This figure corresponds to 12% in the mountain villages as agricultural activities are limited due to the geographical characteristics and altitude of these villages. The secondary source of livelihood of the central villages is the retirement income. 24% of the households in central villages have higher retirement income than incomes of other households. In transition

villages, the rates of households making a living from agriculture and those making a living from retirement income are equal (27%) and the two income items constitute the main source of livelihood in the transition villages. On the other hand, the main source of livelihood of the mountain villages is compromised by salaries / daily wages. Thus, animal husbandry is practiced less often in the mountain villages than others (See Table 3).

	Central Villages	Transition Villages	Mountain Villages
Agriculture	%33	%27	%12
Retirement income	%24	%27	%23
Salary / daily wage	%15	%19	%29
Animal Husbandry	%6	%6	%18
Social assistance	%9	%10	%6
Other	%5	%6	%5
Family supports	%2	%4	%2
Trade Forest activities	%3	%1	%2
Beekeeping	%1	%0	%0

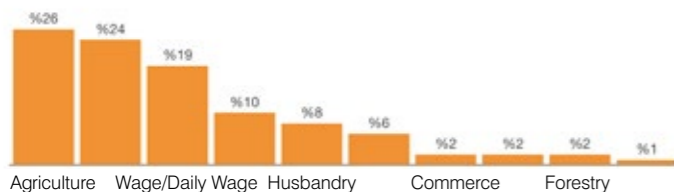
Table 3. Main Sources of Livelihood by Village Categories

*“There is no animal husbandry here, people have one or two cows to meet its own needs for milk and yogurt. We are not using any forest plants except firewood.”*

*(Female, Central Village)*

*“My father’s side, for example, are shepherds. They often travel outside of the village and breed their animals.”*

*(Female, Mountain Village)*



Graph 11. Main Sources of Income for the Households in the Forest Villages



Graph 12. Shares of the Income Sources in the Household Budget



“We have forestry, mining, animal husbandry and partly agriculture. The main source of livelihood was coming from forestry and mining until recently, but the mining sector is now in decline. Villages are partly engaged in animal husbandry and gardening.”

(Male, Forest District Directorate)

According to the distribution of livelihoods by regions, it is seen that the main livelihood is agricultural activities in about half of the households in Gazipaşa (including green housing and gardening). Similarly, the rate of agriculture is higher

in Köyceğiz than in other regions. It is observed that the retirement income (35%) in Gülnar and the salary / daily wage in Pos and Adırın (29% for Pos and 22% for Adırın) stand out. Additionally, animal husbandry is higher in Pos and Adırın compared to other regions (16%). 5% of Köyceğiz households' main sources of livelihood are beekeeping, unlike other regions.

Pos differentiates from any other regions in terms of its relation with forest and economy. Forest is the main source of livelihood in only lesser than 1% of households in regions outside of Pos, yet the same figure is higher than 10% in Pos (See Table 4).

	Adırın	Gazipaşa	Gülnar	Köyceğiz	Pos
Agriculture	%16	%49	%22	%36	%7
Retirement income	%20	%21	%35	%25	%22
Salary / Daily wage	%22	%16	%12	%17	%29
Animal husbandry	%16	%1	%3	%5	%16
Social assistance	%16	%5	%12	%0	%8
OtherTrade	%3	%5	%13	%5	%2
Trade	%4	%1	%2	%7	%0
Family supports	%3	%2	%2	%2	%4
Forest activities	%1	%0	%1	%0	%11
Beekeeping	%1	%0	%0	%5	%1

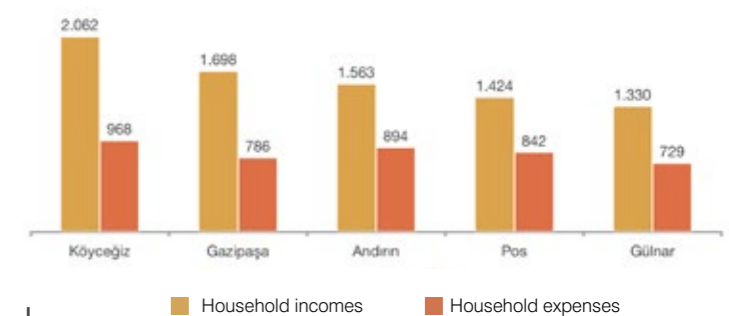
Table 4. Main Sources of Livelihood by Village by Regions

“There are few jobs in our villages. Before there was none. 10 years ago, the village was so populous that a minibus would carry 60 to 70 people when we were going to a terrace named Delikkaya. But, now, there is almost no one in the village.”

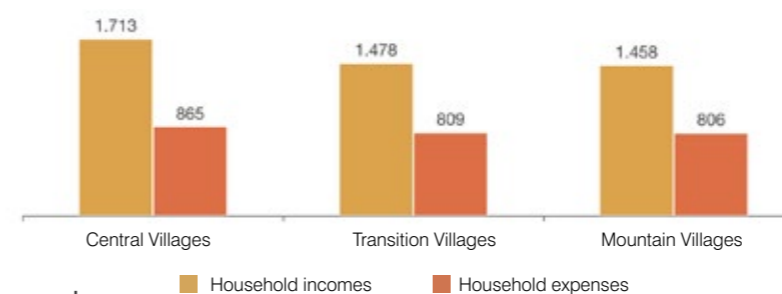
(Female, Mountain Village)

Monthly income in the region corresponds to approximately 1,500TL. The incomes of the transition villages and the mountain villages are not so much different from each other, however, approximate monthly income of a household in central villages is significantly higher than the other two village types. It is worth mentioning that the monthly expenses of a household are also low as the monthly income. Incomes and expenses evaluated together, it is seen that only near half of the income of a household is spent on expenses. (50% for Central villages, 55% for transition villages, and 55% for mountain villages)

According to income and expense distribution by regions, it is observed that Köyceğiz's household income is significantly higher than the ones in other regions. While the approximate monthly income of a household in Köyceğiz is 2,062 TL; the lowest income, corresponding to 1,330TL, is in Gülnar. From lowest to highest incomes after Gülnar are listed as follows: 1,424TL in Pos, 1,563TL in Adırın and 1,698TL in Gazipaşa. While the ratio of income-expenses is the lowest in Gazipaşa with 46%, it is the highest in Pos with 59% (See Graph 14).



Graph 14. Distribution of Income/Expenses in the Regions (TL)

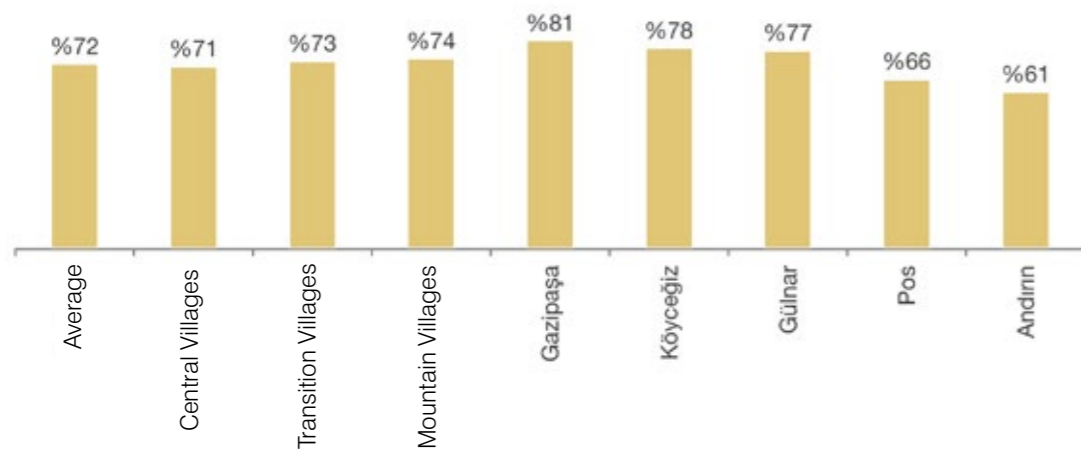


Graph 13. Distribution of Income/Expenses by Village Categories (TL)

## AGRICULTURE AND ANIMAL HUSBANDRY

As it was mentioned in the previous sections, the ratio of households in forest villages, whose main source of livelihood is agricultural activities, to another household is higher. Incomes of households in these villages mainly consist of agriculture activities as well. According to the agricultural land ownership in forest villages in the region, this figure is above 70%. While agricultural land ownership

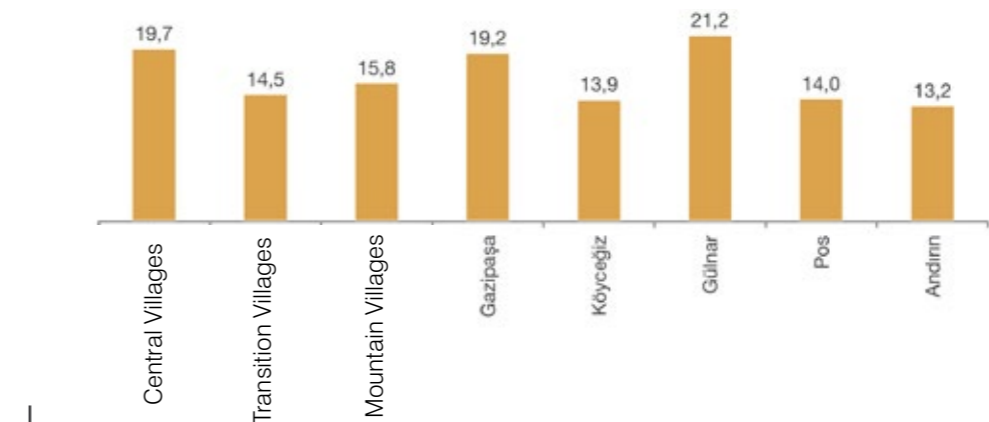
does not significantly differ depending on village categories, it varies at the regional level (depending on the structure of the land). The highest agricultural land ownership is in Gazipaşa (81%), which is followed by Köyceğiz and later Gülnar. Agricultural land ownership in Pos and Andırın is lower than the other three regions (See Graph15).



Graph 15. Agricultural Land Ownership by Village Categories and Regions

Average land size per household is 17 acres. While this figure is around 15 acres in transition villages and mountain villages where the terrain is rougher and the altitude is higher, this number increase

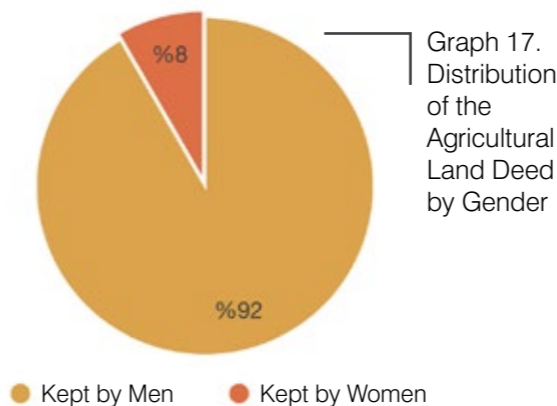
near to 20 acres in central villages. Average land size per household in Gülnar is over 30 acres. It corresponds to 14 acres in Gazipaşa and Köyceğiz while it decreases to 13 acres in Pos (See Graph. 16).



Graph 16. Land Sizes (Acreage) by Village Categories and Regions

Agricultural land's deed by gender is not distributed equally in households. It is observed that most of the agricultural land deeds in households are owned by men. Nine-tenth of deeds are owned by men of the household while only 8% of the deeds are kept by women (See Graph 17).

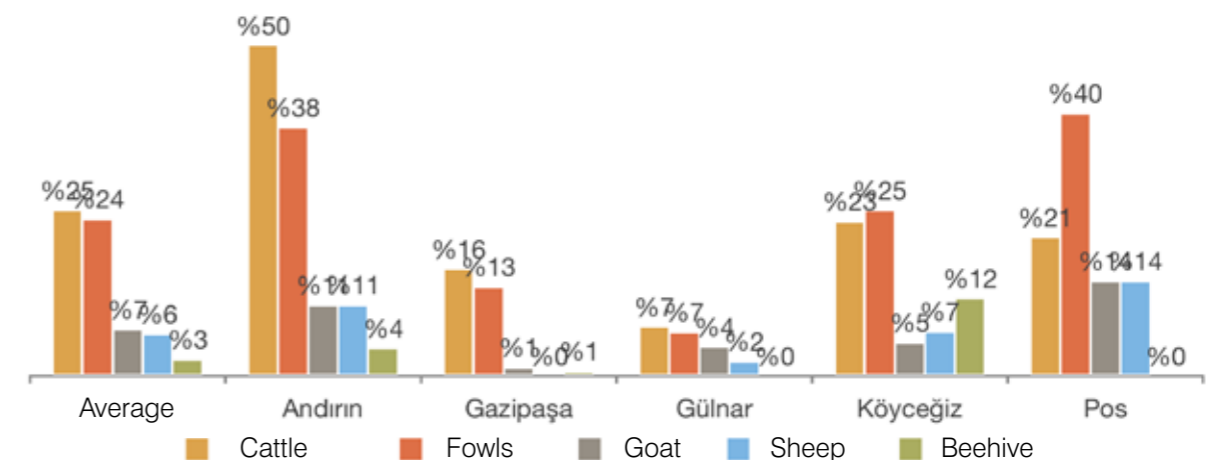
Animal Husbandry is common in forest villages even if it does not play an important role in the sources of livelihood. Although only near one-tenth of the households earn its livelihood from animal husbandry, most of the small-scale households engage in animal husbandry. According to animal species, 25% of households have cattle, 24% of them have fowls, 7% of households have goats, 6% of it have sheep and 3% have beehives. According to regions, Andırın comes to the fore with its cattle while Köyceğiz stands out with its fowls and beehives (See Graph 18).



Graph 17. Distribution of the Agricultural Land Deed by Gender

● Kept by Men ● Kept by Women

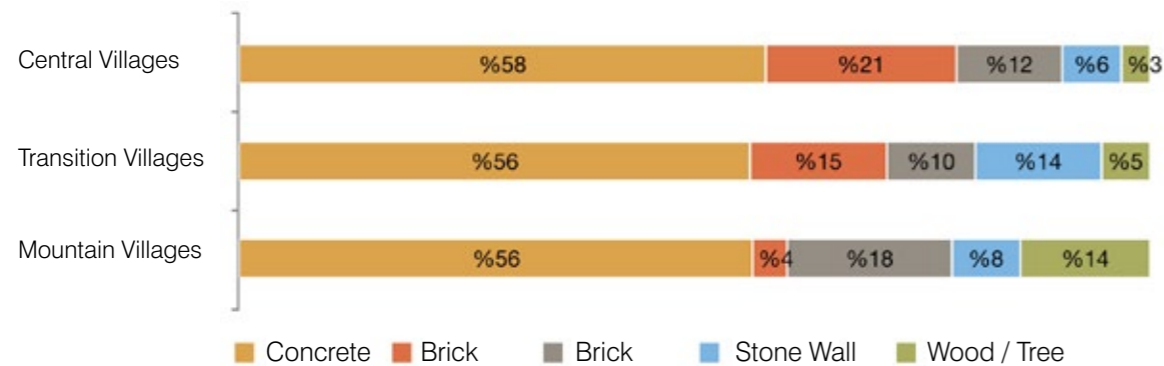
Graph 18. Ownership of Animals in the Households



### The Physical Characteristics of Households

Within the framework of the research, the villagers were asked a range of questions on their houses' physical characteristics such as the construction materials, the floor covering, the roofing material, heating, and warm-up systems, water, and electricity network. Houses in forest villages are mostly made of concrete

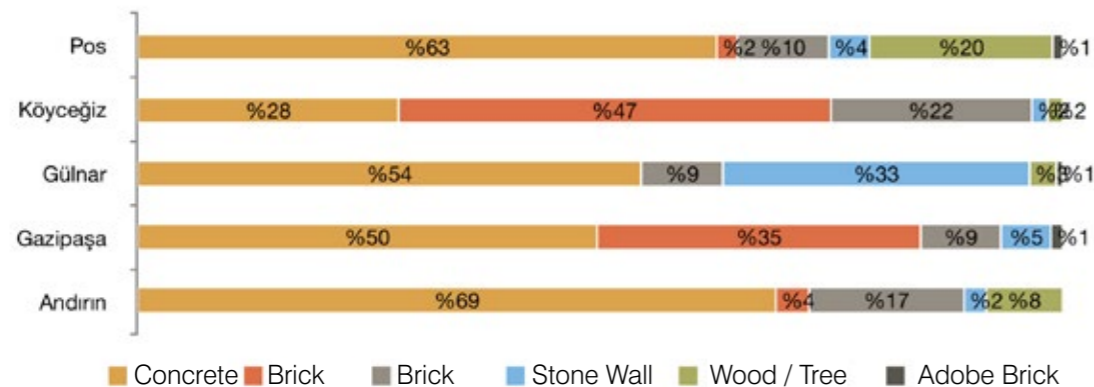
(56%). It is followed respectively by brick (15%), briquette (12%) and stone wall (10%). Wooden houses are not common in the region (6%). It can be said that the construction material of the houses differs depending on the categories of forest villages. Although houses made of concrete is the majority in each category, brick houses in central villages (21%) and wooden houses in mountain villages (18%) are common (See Graph 19).



Graph 19. Construction Materials of the Houses by Village Categories

The construction material of the houses varies depending on the region. While concrete houses are the majority in every region except Köyceğiz, about half

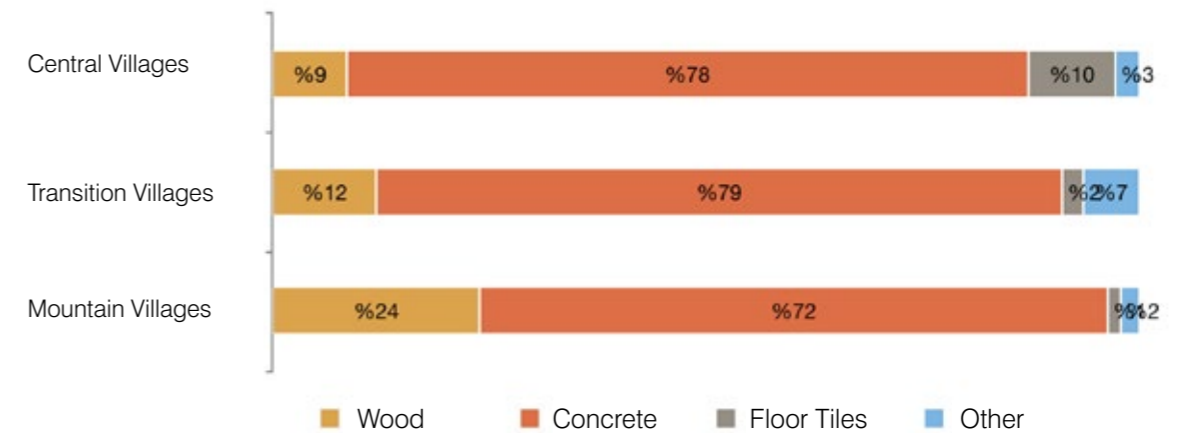
of the houses in Köyceğiz is made of bricks (47%). Pos is the region where the wooden houses are most common (20%).



Graph 20. Construction Materials of the Houses by Regions

The floor covering material for most of the forest villages' houses is also concrete (77%). The concrete floors are followed respectively by the wood flooring (13%)

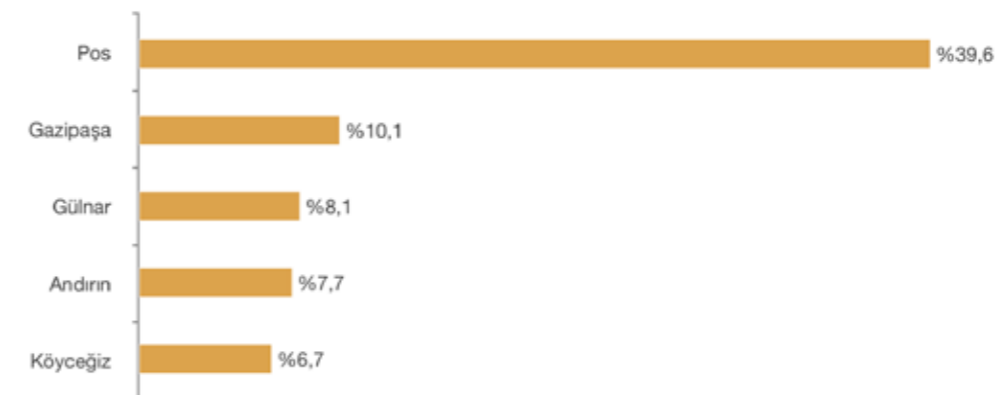
and tile flooring (6%). The wood flooring is most commonly found in the mountain villages; about one-fourth of the houses in mountain villages have wood floorings (See Graph. 21).



Graph 21. Floor Coverings by Village Categories

Wood flooring is more common in Pos than other regions like the construction material. While 40% of households in Pos

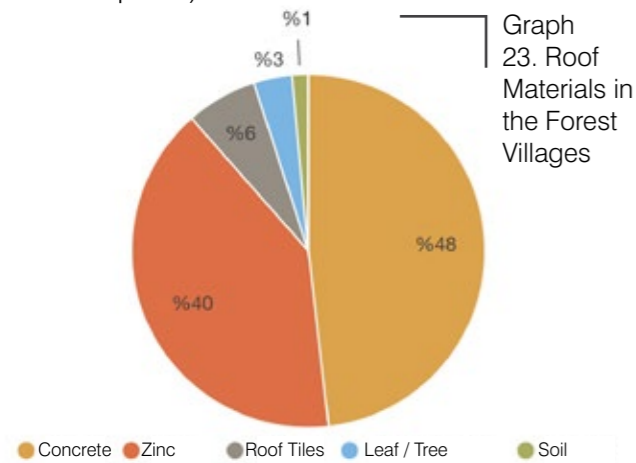
has wood flooring, the second highest wood flooring use is in Gazipaşa with 10% (See Graph 22).



Graph 22. Wood Flooring by Regions

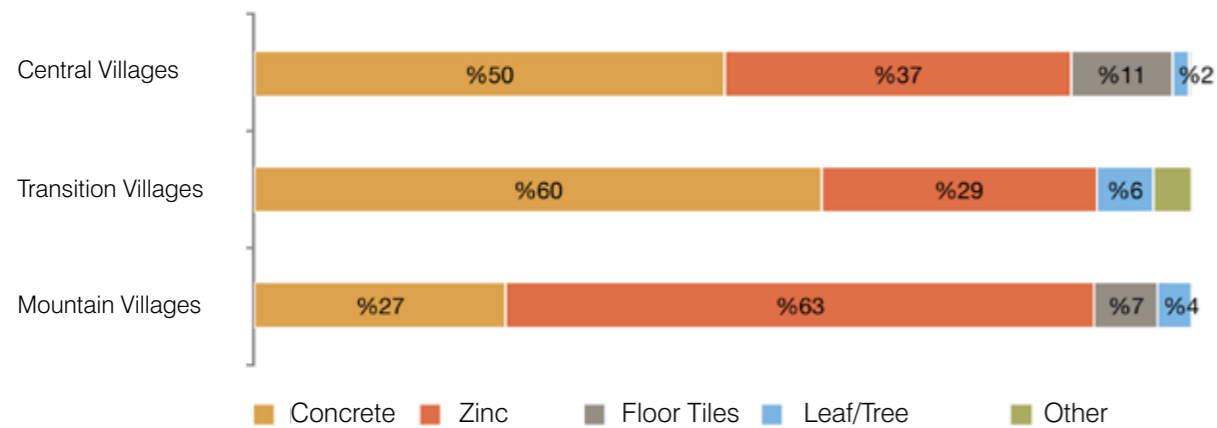


Almost half of the roofs of the households in the forest villages are made of concrete (48%), 40% of the houses have zinc roof covering. Only 6% of the households have roof coverings made of roof tiles (See Graph 23).



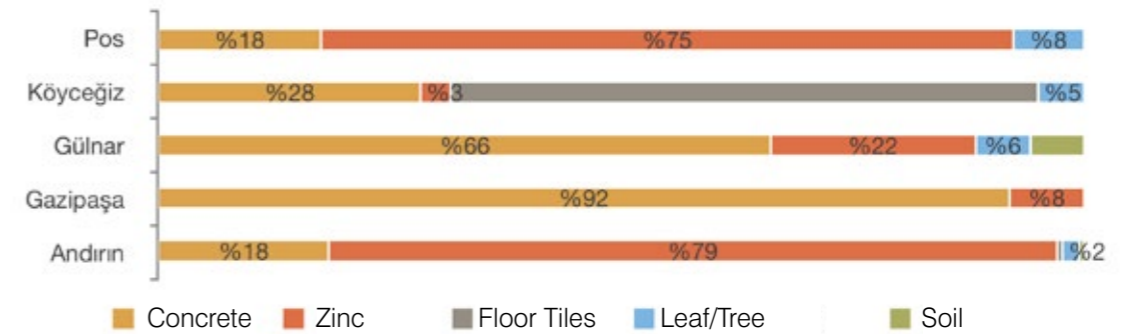
The material of roof coverings differs depending on the categories of forest villages; while concrete roofs in central villages and transition villages are used often (50% for central villages and 60% for transition villages), zinc roof covering is common in the mountain villages (63%). Roof tiles are mostly used for roof covering in the central villages (11%) (See Graph 24).

Graph 24. Roof Materials by Village Categories



Most of the roofs are made of concrete in the households of Gazipaşa (92%) while it is made of roof tiles in Köyceğiz (63%). Zinc is mostly used in Pos and

Andırın. While the four-fifths of the houses in Andırın has zinc roofs, the same figure corresponds to 75% in Pos villages (See Graph 25).



Graph 25. Roof Materials by Regions

“We wanted zinc from Forest-Village Relations Department, it was good.”

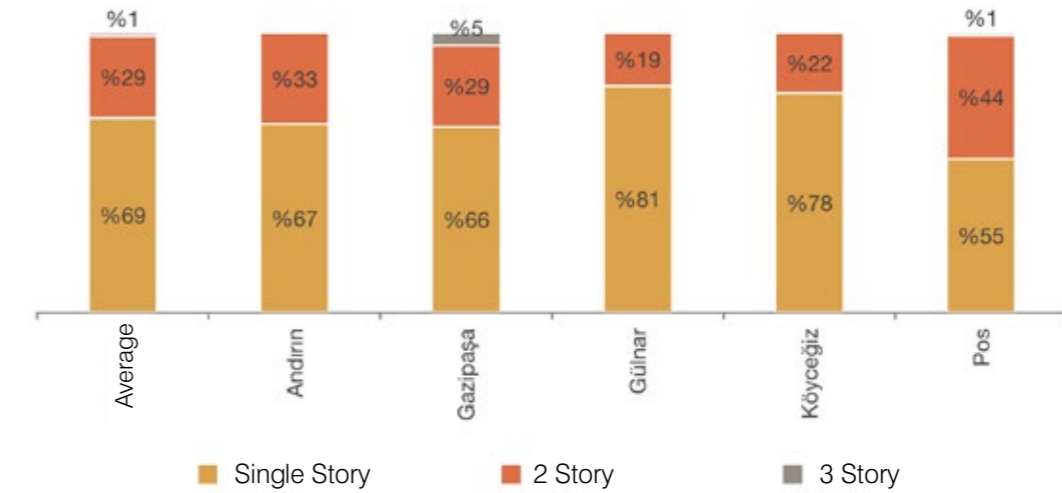
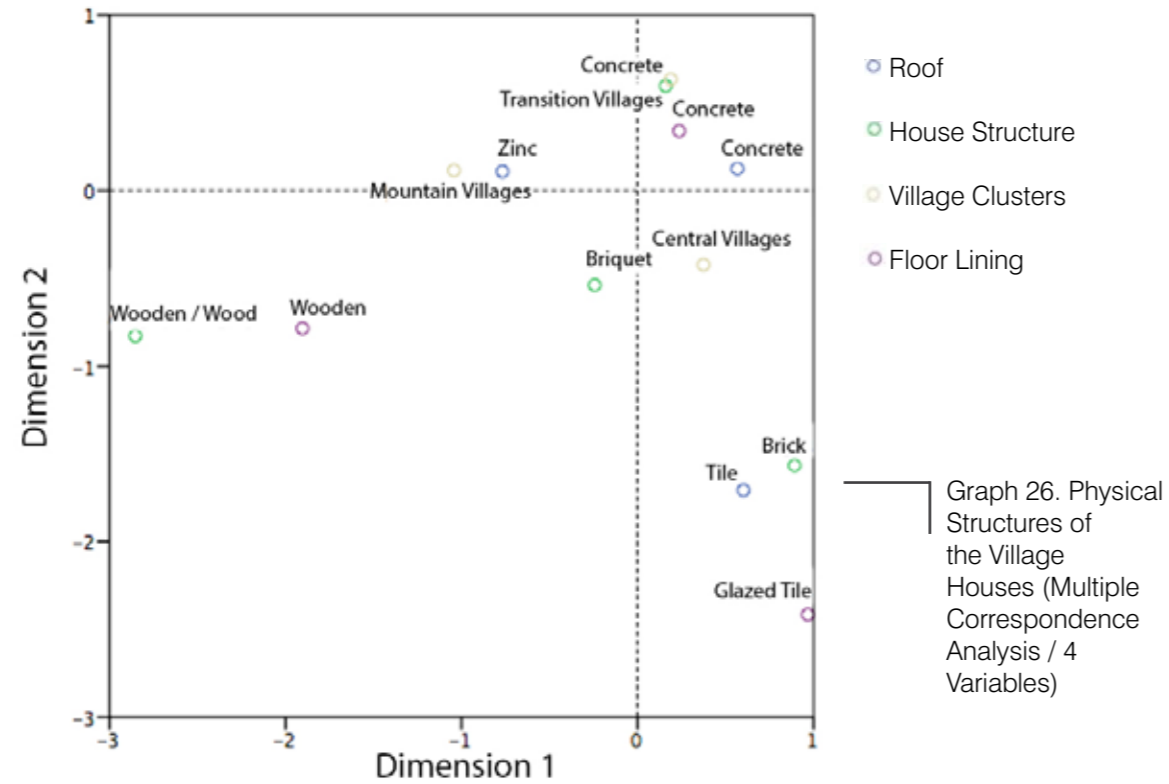
(Male, Mountain Village)

“About 30 years ago, they renovated it and helped us with zinc.”

(Male, Transition Village)

Forest village categories and structure of households, roof and floor coverings were analyzed by multiple correspondence

analysis. In Central villages, Bricks and briquette usage as construction materials, roof tiles as the roof covering and floor tiles as the floor covering are approximate. In other words, the structures of the houses in central villages are similar to the houses in the districts. In transition villages, concrete is used more frequently as a construction material, floor covering and roof covering. In mountain villages, on the other hand, zinc usage as construction material and as roof coverings, and wood usage as the floor covering are approximate.



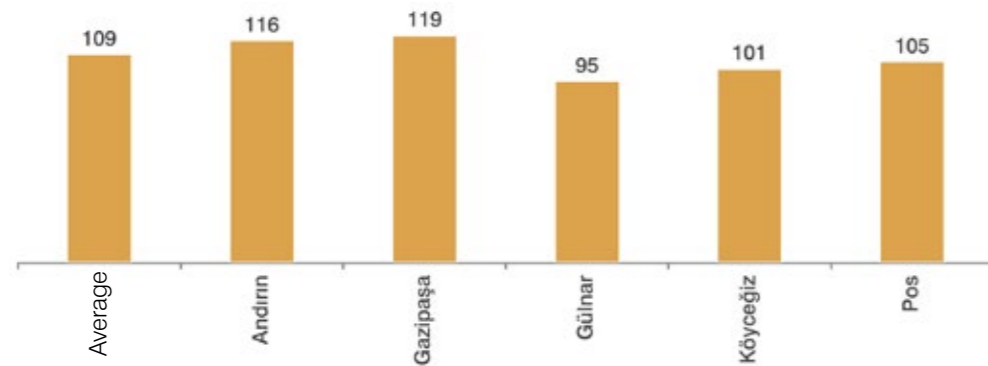
Graph 28. The Number of Floors by Regions

In 20% of the region forest villages, the toilet is outside the house. This rate is considerably higher in Gülınar than in other regions. The toilet is outside the house

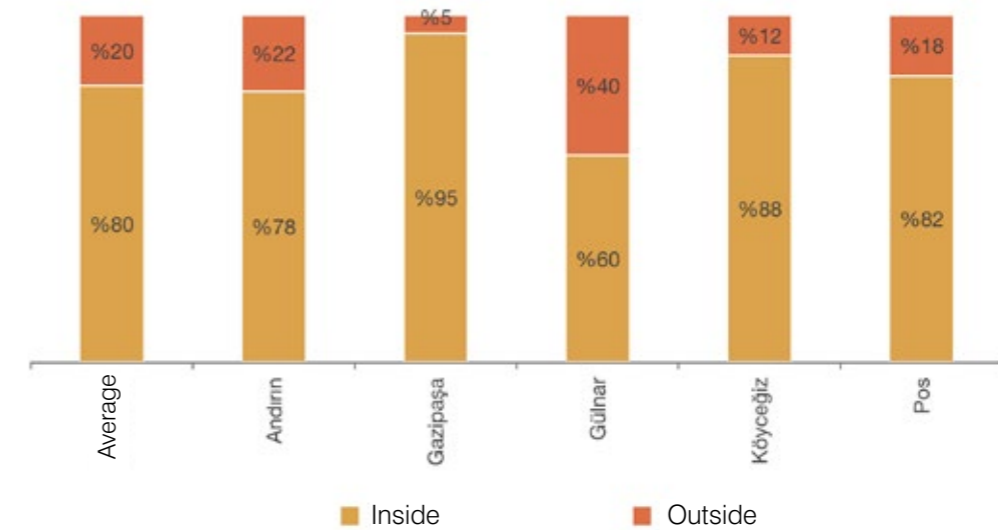
in 40% of forest village houses in Gülınar. Gülınar is followed respectively by Andırın (22%), Pos (18%) and Köyceğiz (12%) (See Graph. 29).

The average size of the forest villages' houses in the region is 109 square meters. While there is no significant difference in the sizes of houses by regions, the biggest houses are found in Gazipaşa (199 square

meters) and the smallest houses are situated in Gülınar (95 square meters) (See Graph 27). Most of the houses are single-story (69%). Houses with more than two stories are mostly found in Gazipaşa (See Graph 28).



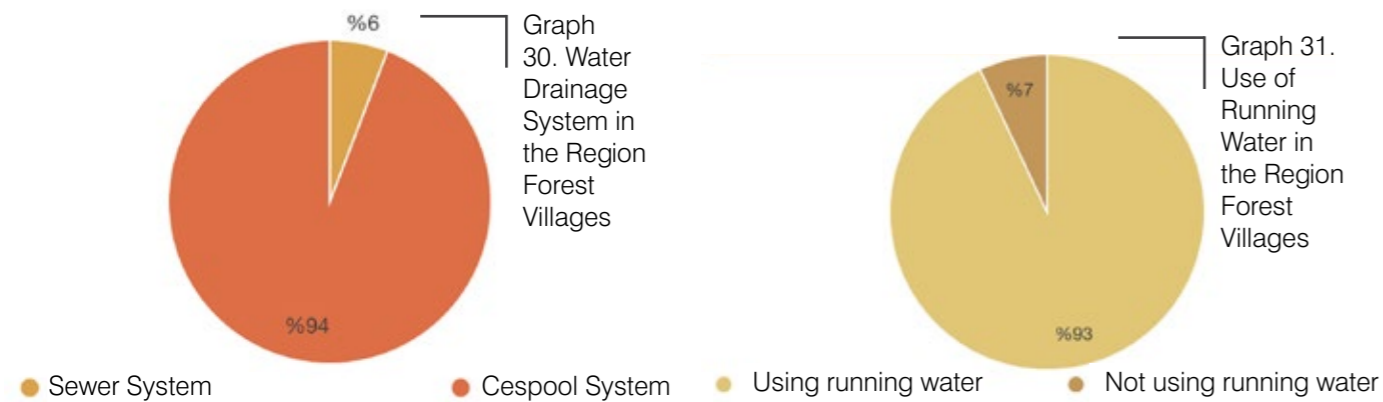
Graph 27. House Sizes (m²) by Regions



Graph 29. Location of the Toilet by Regions

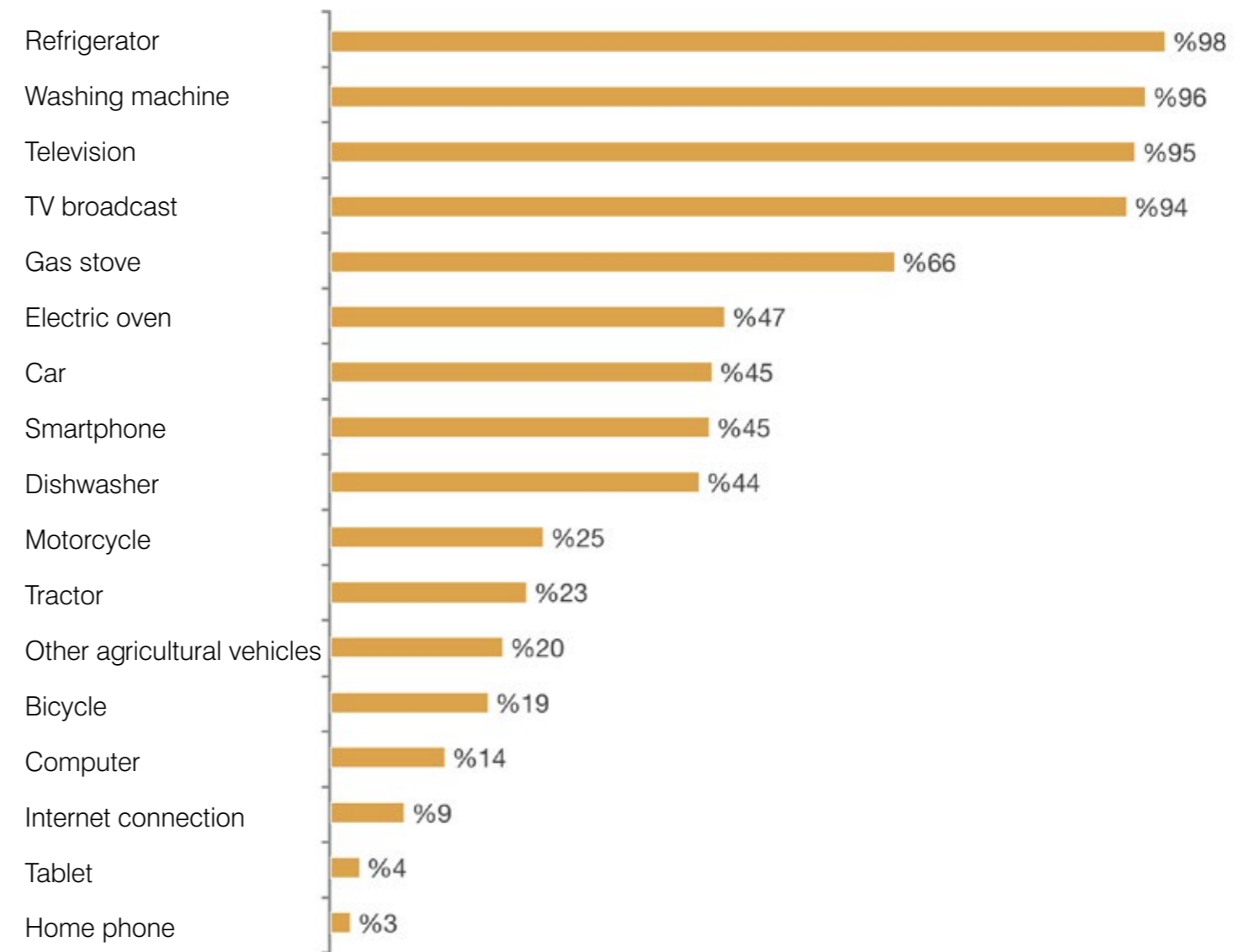
On the other hand, only 6% of the villages in the region have a sewer system (See Graph 30.) Almost all villages have a

cesspool system. 7% of the households in the forest villages do not use running water (See Graph 31).



Most of the households in the forest villages have domestic appliances such as refrigerators, washing machines, and televisions. 45% of households have automobiles, and one-fourth of households have motorcycles and tractors. The use of home telephones is also declining in the

forest villages; only 3% of the villages in the region possess land phones. The use of smartphones in forest villages is high. 45% of households have smartphones while 15% of the households have computers (See Graph 32).



Graph 32. Ownership of Household Goods



In terms of ownership of goods, the differences between the categories of forest villages are not distinct. Mountain villages have a similar rate of domestic appliances compared to other village types, except for dishwashers, but in mountain villages, transportation vehicles such as automobiles, motorcycles and agricultural vehicles such as tractors are lower than other village categories.

Nevertheless, central villages are different from other village categories in the rate of ownership of all goods despite small difference. The higher rate of the ownership of the computer, washing machine and automobile in central villages is an important indicator of its significantly different characteristic compared to transition and mountain villages.

	Central Villages	Transition Villages	Mountain Villages
Fridge	%98	%100	%97
Washing machine	%98	%96	%92
Television	%95	%95	%94
TV broadcasting	%96	%92	%91
Gas oven	%67	%64	%68
Electric oven	%55	%41	%40
Smart phone	%48	%41	%43
Car	%55	%40	%36
Dishwasher	%55	%41	%26
Motorcycle	%31	%28	%12
Tractor	%27	%17	%25
Other agricultural vehicles	%25	%16	%19
Bike	%22	%15	%18
Computer	%21	%9	%7
Internet connection	%16	%4	%2
Tablet	%5	%2	%3
Land phone	%4	%1	%2

Table 5. Ownership of Household Goods by Village Categories

According to the ownership of goods by regions, households in Köyceğiz has more variety of goods than other village categories. In particular, ownership of transportation vehicles such as automobiles, motorcycles and bicycles

differ significantly from other regions. The same situation is the opposite in Pos and Gülnar. The ownership of goods in Pos and Gülnar is lower than other categories (See Table 6).

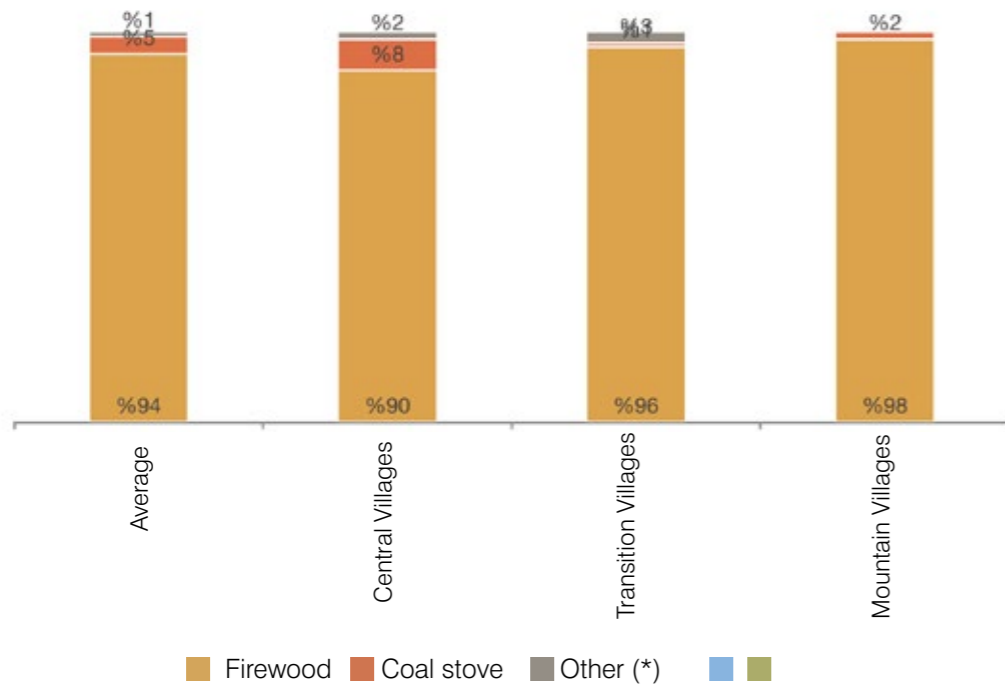
	Andırın	Gazipaşa	Gülnar	Köyceğiz	Pos
Fridge	%98	%100	%97	%100	%97
Washing machine	%99	%99	%90	%100	%91
Television	%94	%96	%94	%93	%96
TV broadcasting	%95	%98	%93	%97	%85
Gas oven	%67	%72	%68	%75	%48
Electric oven	%41	%64	%24	%82	%41
Car	%46	%58	%31	%65	%29
Smart phone	%42	%54	%36	%48	%45
Dishwasher	%41	%58	%27	%58	%39
Motorcycle	%8	%48	%8	%68	%17
Tractor	%27	%10	%24	%42	%24
Other agricultural vehicles	%24	%11	%21	%42	%14
Bike	%10	%24	%6	%58	%19
Computer	%5	%24	%6	%35	%10
Internet connection	%1	%20	%2	%32	%1
Tablet	%2	%5	%2	%7	%4
Land phone	%1	%1	%1	%15	%2

Table 6. Ownership of Household Goods by Regions

### Heating, Water Heating and Firewood Consumption

Firewood is used for heating houses in forest villages. While firewood is used for home heating in 94% of the houses in the region forest villages, 4.5% of the houses

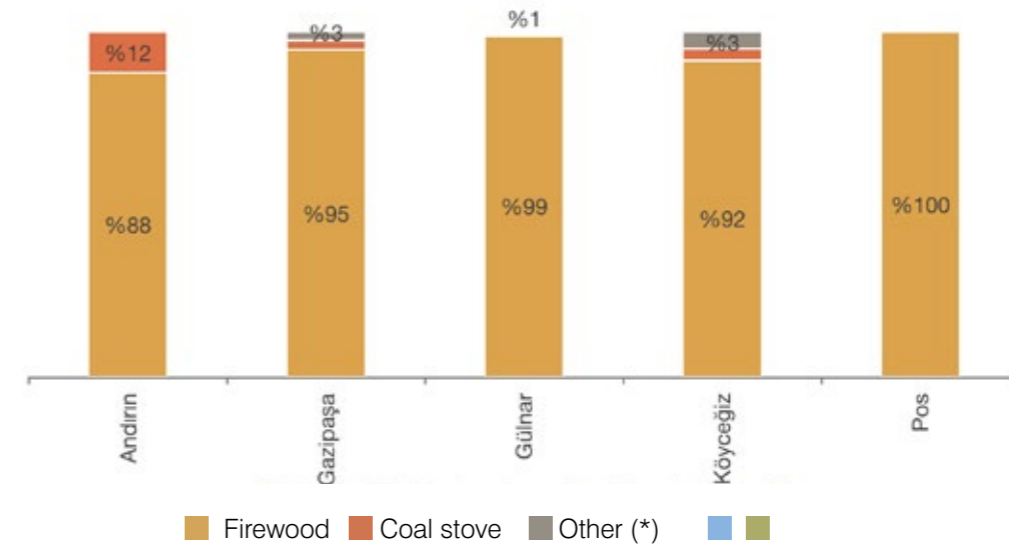
are heated with a coal stove. The type of warming does not differ significantly in forest village categories; the firewood usage as a heating source in households of all categories is above 90%. Only central villages use more coal stove for heating than other regions 6 (See Graph 33).



Graph 33. House Heating Systems by Village Categories

According to heating systems' distributions by regions, almost all houses in Gülnar and Pos are heated by firewood. Usage of

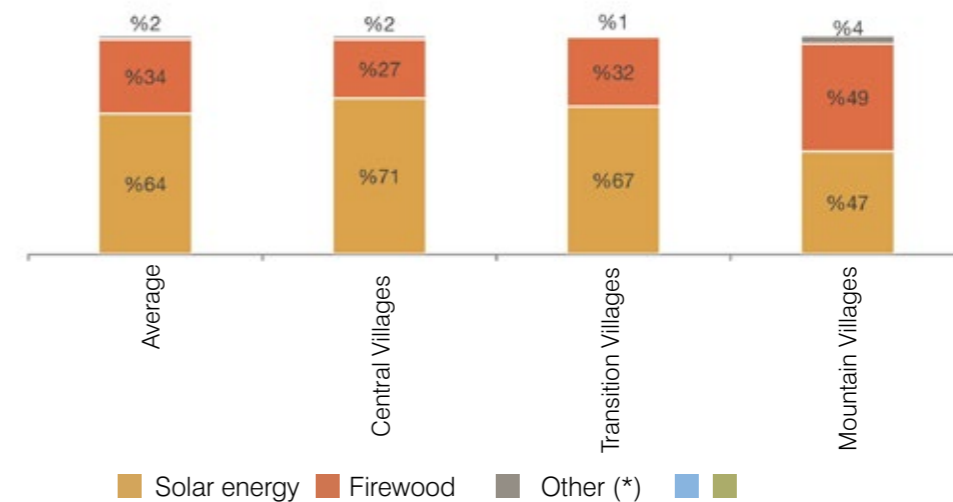
coal stove in Andırın is above 10% (See Graph 34).



Graph 34. House Heating Systems by Regions

Solar energy is used for water heating in 64.2% of the region forest village households and 33.9% of households use firewood. The type of fuel used in water heating changes depending on village

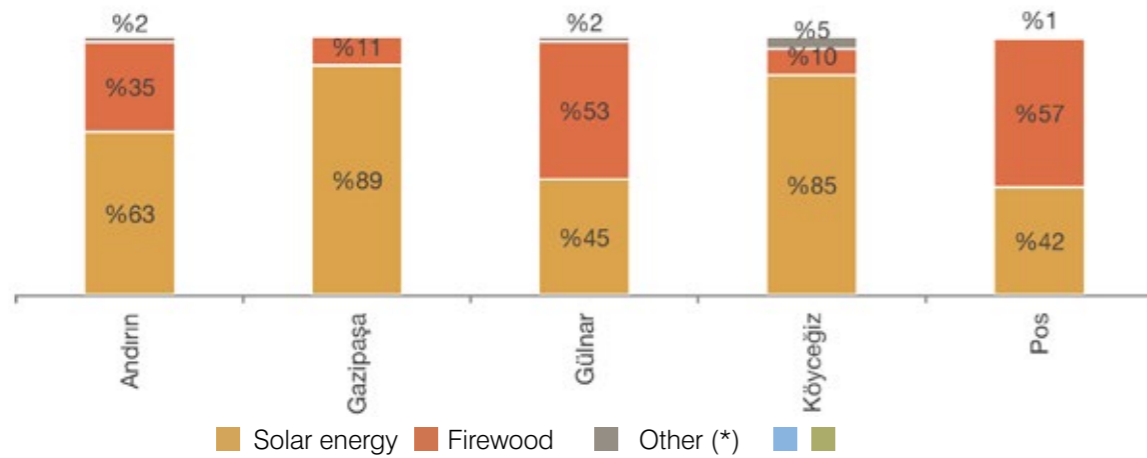
categories. While 71% of households in central villages have a solar energy system, the same figure corresponds to 47% in mountain villages. Heating water with firewood is higher than heating with solar energy in mountain villages (See 35).



Graph 35. Water Heating Systems by Village Categories

The water heating differs considerably depending on regions. In Köyceğiz and Gazipaşa, solar energy use for water heating is near 90%, while the same rate

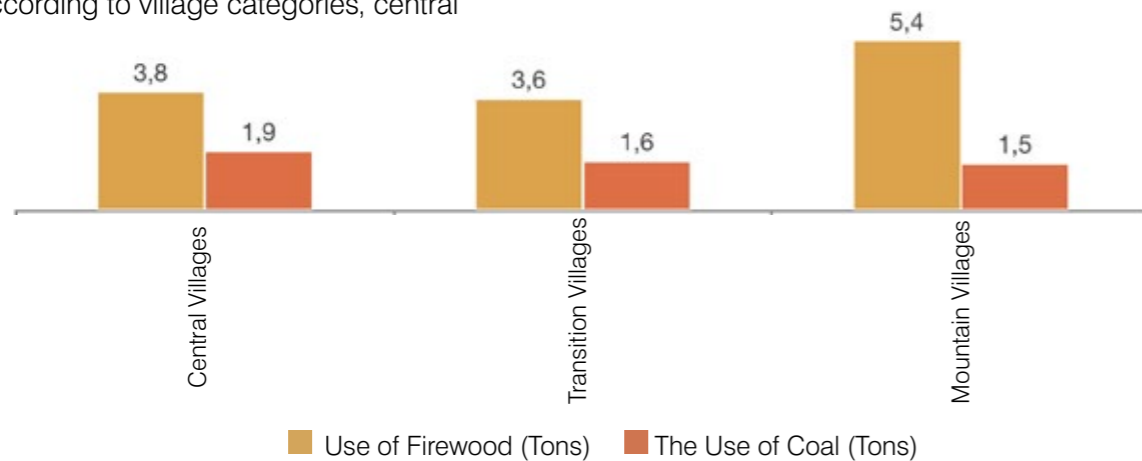
is around 45% in Pos and Gülnar. The use of firewood for water heating in Pos and Gülnar is more common than using solar energy (See Graph 36).



Graph 36. Water Heating Systems by Regions

The annual firewood consumption in the forest village households for heating and water heating purposes exceeds 4 tons and the use of coal consumption for the same purposes surpass 1.7 tons<sup>7</sup>. According to village categories, central

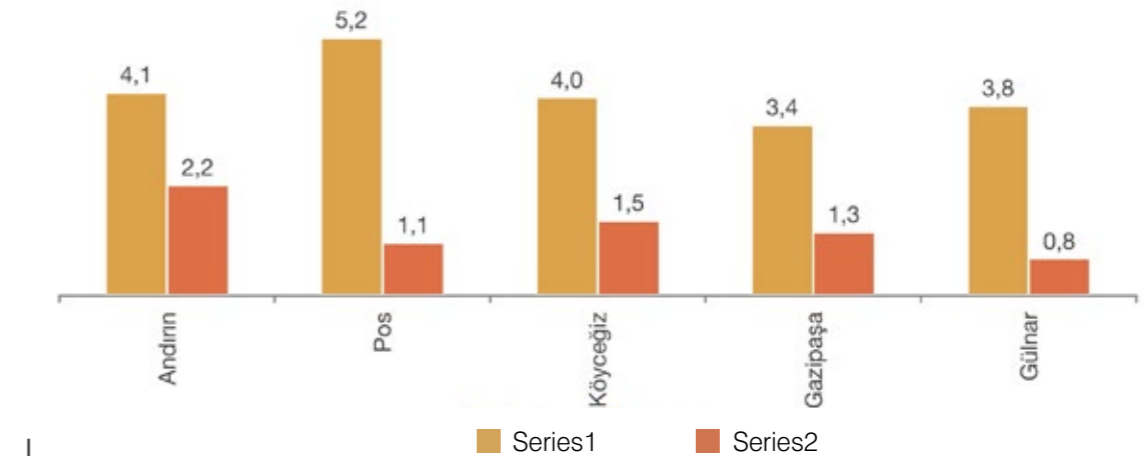
villages and transition villages are similar in the terms of firewood consumption, while mountain villages are different. The use of firewood in mountain villages is near 5.5 tons (See Graph 37).



Graph 37. Firewood and Coal Consumption (Tons) by Village Categories

According to the distribution of firewood and coal consumption by region, it is observed that the houses in Pos consume more than 5 tons of wood. Pos is followed respectively by Andırın with 4.1 tons, Köyceğiz with 4 tons, Gülnar with 3.8 tons and Gazipaşa with 3.4 tons. It can be said

that the region where coal consumption is the highest is Andırın. While households in Andırın consume average 2.2 tons of coal per year, the same amount corresponds to 1.5 tons for Köyceğiz, 1.3 tons for Gazipaşa, 1 ton for Pos and 0.8 tons for Gülnar (See Graph 38).



Graph 38. Firewood and Coal Consumption (Tons) by Regions

## POPULATION AND MIGRATION DYNAMICS IN THE FOREST VILLAGES

In this section of the report, the demographic structure and migration in region forest villages will be mapped and the dynamics of migration from forest villages to districts and provincial centers will be discussed.

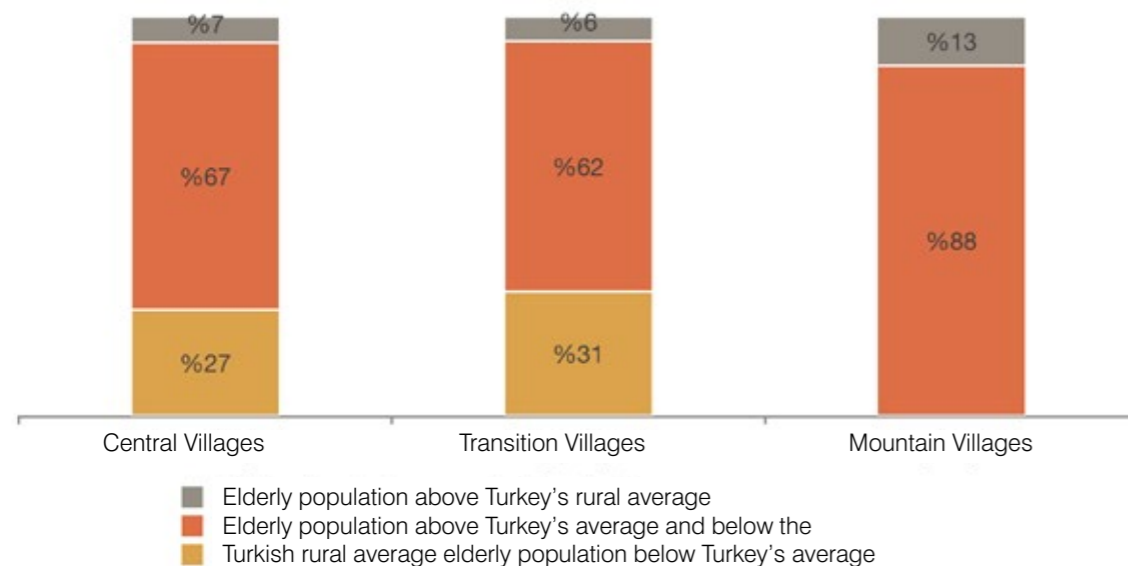
The elderly population in the region forest villages is above Turkey's average. As of 2016, the population over the age of 60 in Turkey corresponds to 15.5% of the total population. This rate is only 29.5% within

the rural population. While the elderly population rate in rural areas is calculated, the ages of everyone living in households are calculated and forest villages are categorized into three classes: villages with a population rate of less than 15.5% (below average elderly population in Turkey), villages with a population rate of between 15.5% and 29.5% (above average of Turkey and below average of rural population), and villages with a population rate of higher than 29.5% (above average rural population of Turkey).

<sup>7</sup>The units (especially stere) stated in the collected data on firewood consumption of villages were analyzed by taking it as it is and converting it into tons.

23% of the region villages in the region have an elderly population below the average of Turkey, while 8% have an elderly population above the average in rural Turkey. Therefore, as expected, there is more elderly population in the villages compared to the population of Turkey. However, according to the average of Turkey's general village population, the elderly population rate is relatively lower. Demographic structures of villages vary depending on village categories. Age distribution in transition villages and central villages are similar and both have a higher youth population than mountain villages. None of the region mountain villages have an elderly population below the average of Turkey (See Graph 39).

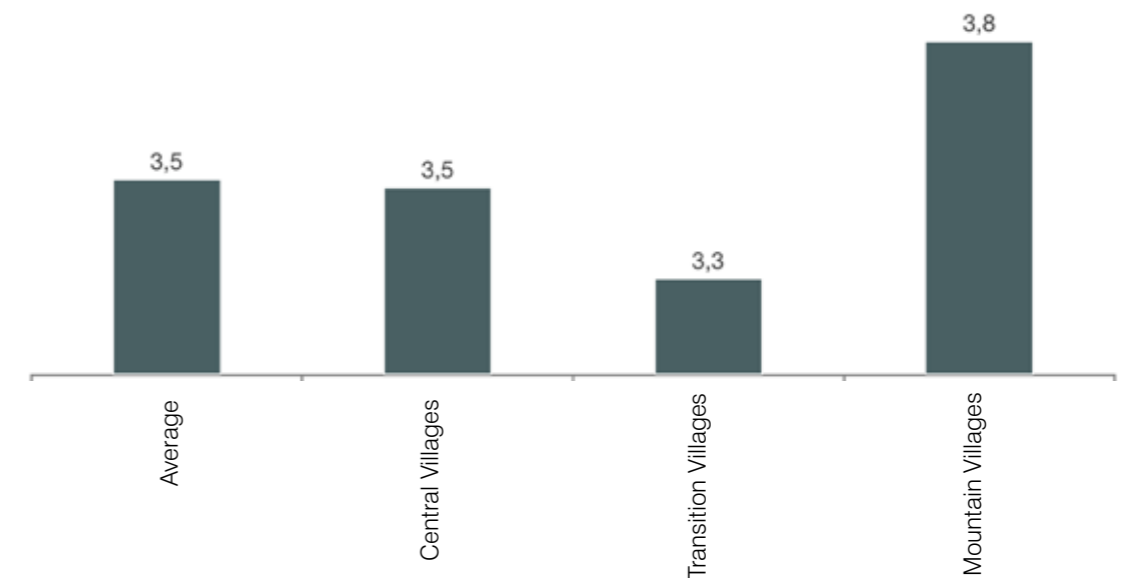
On the other hand, if we examine the population ages over and under 40 in terms of productivity, we will see a different picture. According to the comparison of the population ages over 40 in Turkey's average and rural average, the TurkStat data 2016 documents that the ratio of the population ages over 40 in Turkey to all population of the country is 47.4% and to rural population is 56.9%. While 71% of villagers living in the region are over 40 years old, 29% of the regional population is consist of villagers, ages under 40. This figure is around 70% in central villages. Therefore, on the basis 60-years-old, the rate of the youth population of the region, where has a relatively lower rate of the elderly population, is lower compared both to the general population of Turkey and to the average of rural Turkey.



Graph 39. Age Distribution by Village Categories

Average family size is 6.5 people in the region forest villages<sup>8</sup> and half of the core family lives outside the village. On average, 3.5 people live in every household in the region. This figure corresponds to 3.5 in central villages, 3.3 in transition villages and 3.8 in mountain villages. On average, 2.7 people from households in central villages, 3.3 from transition villages, and 3.3 in mountain villages emigrated from their village. There is no significant difference in the number of family members inside and outside

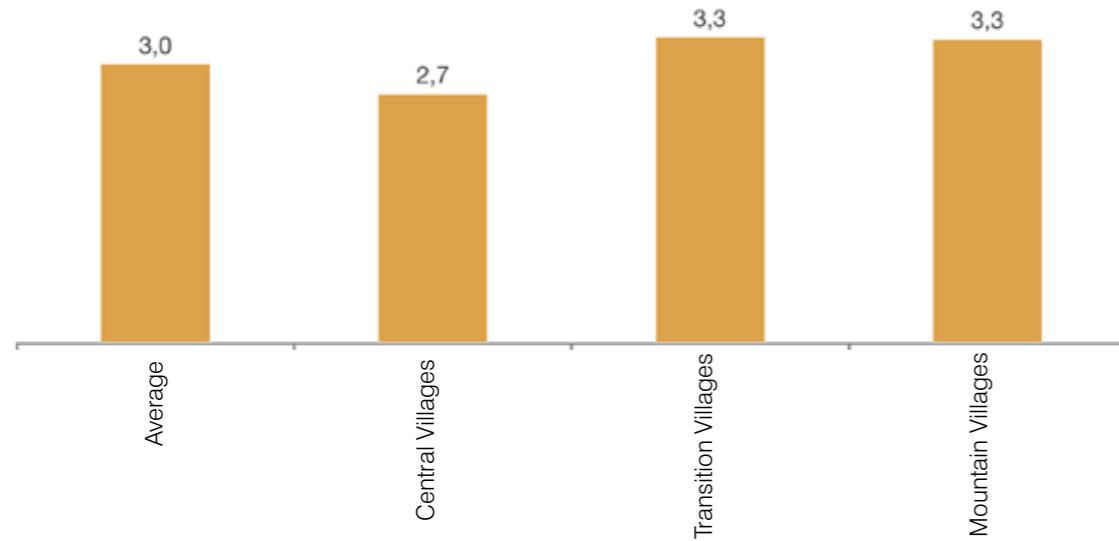
the village in terms of gender. However, women who emigrated from the village are mainly left due to marriage and most of the men who emigrated from the village, left for education and work purposes. After evaluating the number of people in households and the number of people emigrated to the outside of the village, migration to province and district centers are lower in central villages while the same figure is higher in transition villages and mountain villages (See Graph 40, Graph 41)



Graph 40. The Number of Household Members by Village Categories

<sup>8</sup>People living in the house and members of the core family living outside of the village are taken into account when mentioning the family size.

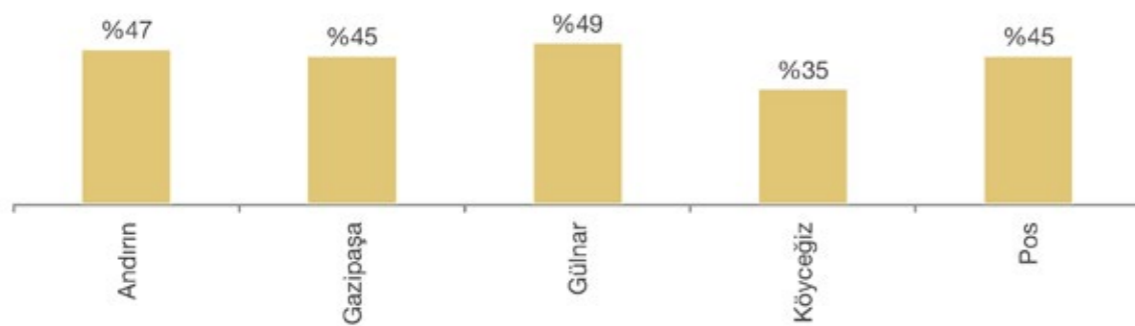




Graph 41. The Number of Family Members Living Outside the Household by Village Categories

According to the rate of migration by regions, Gülnar is the region where the most people emigrate from and the least people emigrate from Köyceğiz. While half

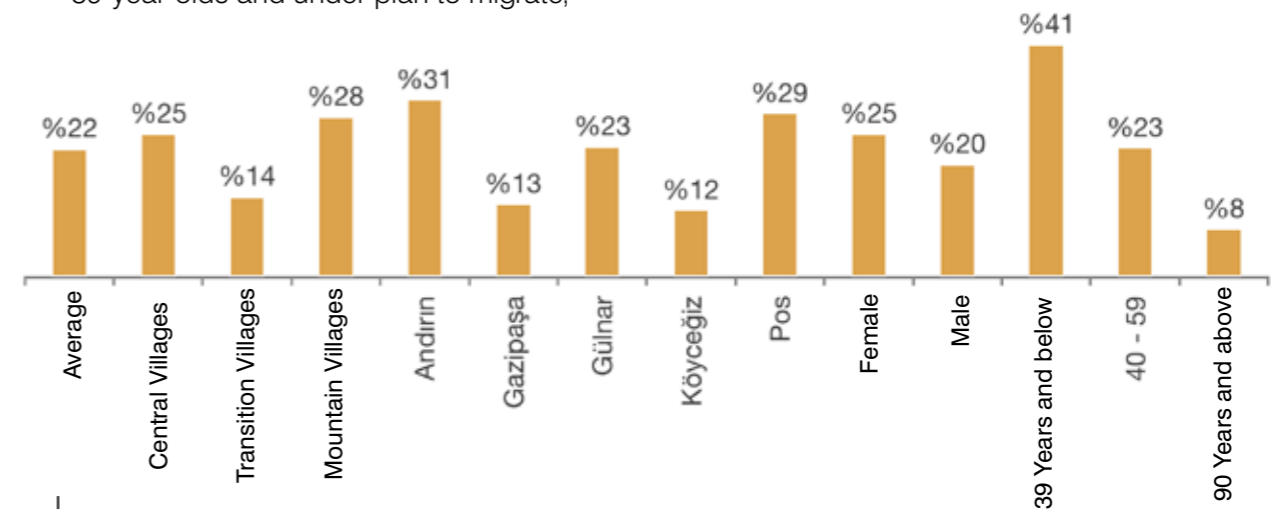
of the family members in Gülnar is living outside of the village (49%), the same figure corresponds to 35% in Köyceğiz (See Graph 42).



Graph 42. Percentage of Migration from the Households by Regions

22% of the forest villagers plan to emigrate or think that one day they will be forced to emigrate. This figure corresponds to 28% in mountain villages, 25% in central villages and 14% in transition villages. It can be said that there is a strong relevance between age and motivation for migration since the motivation is higher in young people. While 41% of the 39-year-olds and under plan to migrate,

the same figure is 8% in over 60-year-olds. On the region basis, the motivation for migration in Andırın and Pos is higher than in other regions. It can be said that women's motivation to migrate is higher than men. 25% of women plan to migrate or think that they will migrate some day in the future, on the other hand, this figure is 20% in men (See Graph 43).



Graph 43. People Planning to Migrate from the Forest Villages

The main factors affecting the motivation to migrate were focused during the in-depth interviews in person conducted within the framework of the research. Four fundamental reasons for emigration stand out:

### Economic Concerns

It can be stated that limited job

opportunities in forest villages are an important factor affecting migration motivation, especially for young women and men. Forest villagers more prefer jobs in the city with salary and social security even if the salary is low than agricultural and forest-based jobs in the village as they see city jobs more reputable.

*“There is financial difficulty in villages. It does not enough, they need to earn a certain amount of money. One has to enter the tourism sector. It is the same for women. All of the young people are in Alanya.”*

*(Female, Central Village)*

## Receiving Education

It is observed that education effects on migration have two dimensions. The first and main motivation is receiving an education. Young people think that education is key to getting out of the village and therefore prefer to study in the city after secondary education. The two main motivations to receive an education are the desire to leave the village and the belief that being educated will render them advantageous while looking for a job. Secondly, another motivation observed in young women is to expand their child's educational opportunities rather than themselves.

*“Their immigration, I mean, they are saving themselves with education. They go all kind of places, for example, if they are assigned to another city. Some will become doctors and teachers. But they mostly study. They mostly go to Alanya.”*

*(Female, Central Village)*

## Marriage

Potential employment opportunities enable educated young women to emigrate, while low-educated women are less likely to migrate as it is difficult to find a job. As a result, the only remaining way to leave the village becomes a marriage. Marriage migration is common for women living or aiming to live in a city.

*“If women get married, they stay. If they are not married but receive an education, they go where they studied and work there or they go with their husbands. Most of them are here anyway if there are no job opportunities, so they go and work somewhere else.”*

*(Female, Central Village)*

*“They are leaving here because there is no job that they want, and nobody wants to do farming. The girls are more unwilling to do it. They want to be more comfortable. What will a wife of a man with social insurance do? She stays at home. The girls want more to get married.”*

*(Mukhtar, Transition Village)*

*“But, if they are not going to school, they will have lower motivation. If the girl does not go to high school, she will be married within a maximum of four years, and if she does not go to a university, she will be married within two years.”*

*(Male, Mountain Village)*

## Preference of City Life over Village Life

Young people consider the village as socially limited. For young people, city life is easier than village life. Young people regard finding a job, receiving education and getting married as a means to live in the city.

*“People from our village usually immigrate to Adana. Girls who stayed at the village get married while our boys work in mines, constructions or in municipalities seasonally. Everything is hard in the village. Sometimes, there is no water, no transportation, and no school. If you were a young girl, would you like to live in such a place? In these circumstances, our girls can also get married in cities. For instance, as my girl will start high school, I start to ponder about what should I do, should I emigrate, or can I do it.”*

*(Female, Mountain Village)*

*“People are bound to leave. Nobody stays in the village, everybody is leaving. Everyone bought a smartphone. People think that even though I have this phone am I going to herd a goat. I'm wearing that shoe, something like Adidas or Nike so and so. I'm wearing this*

*t-shirt, I can't go there and such. Why? Because they are spineless. They are like: I post this photo on Facebook, people who see me in these photos won't believe I'm doing this job.*

*(Female, Mountain Village)*

The main motivation for young people who prefer to stay in villages is to look after their parents. After some members emigrated, certain children stay in the village to shoulder the responsibility of looking after their parents when they got old. Young people who stay in the village is generally less educated people who abstain from taking risks compared to their siblings.

*“Once he came from the military, he said I will get myself together, but he stayed here and he could not recover. That is why he is here.”*

*(Mukhtar, Transition Village)*

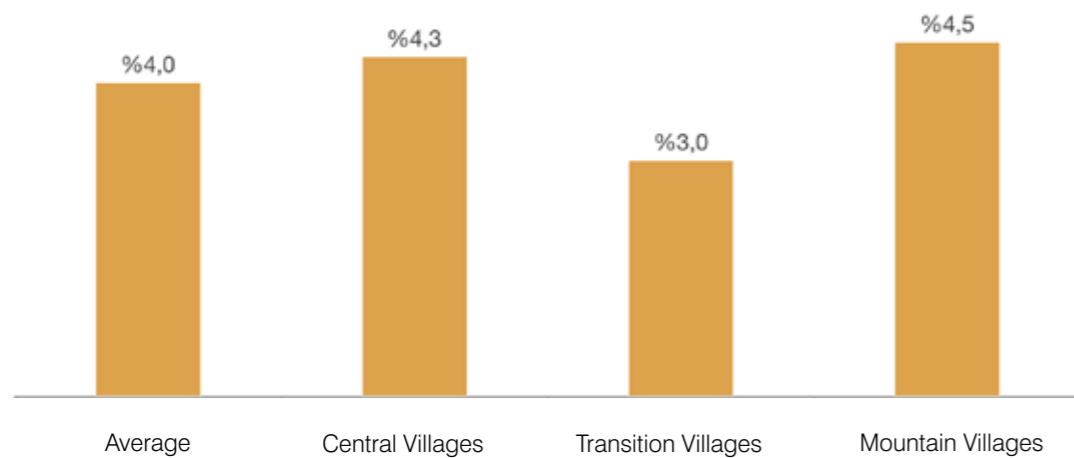
YAŞAMADAİRVAKIF/2017 48

*“If they couldn't go to the school, they want to get a job, but their expectations are not met.” The girls either study or those who did not study stay here.”*

*(Mukhtar, Transition Village)*

People emigrating from the forest villages do not return. Only 4% of the households in forest villages have family members who returned to their villages from the city (See

Graph 44). These people mostly consist of men and their families who have access to opportunities such as social security and retirement income.



Graph 44. The Percentage of Households with a Family Member Returned to Village from the City

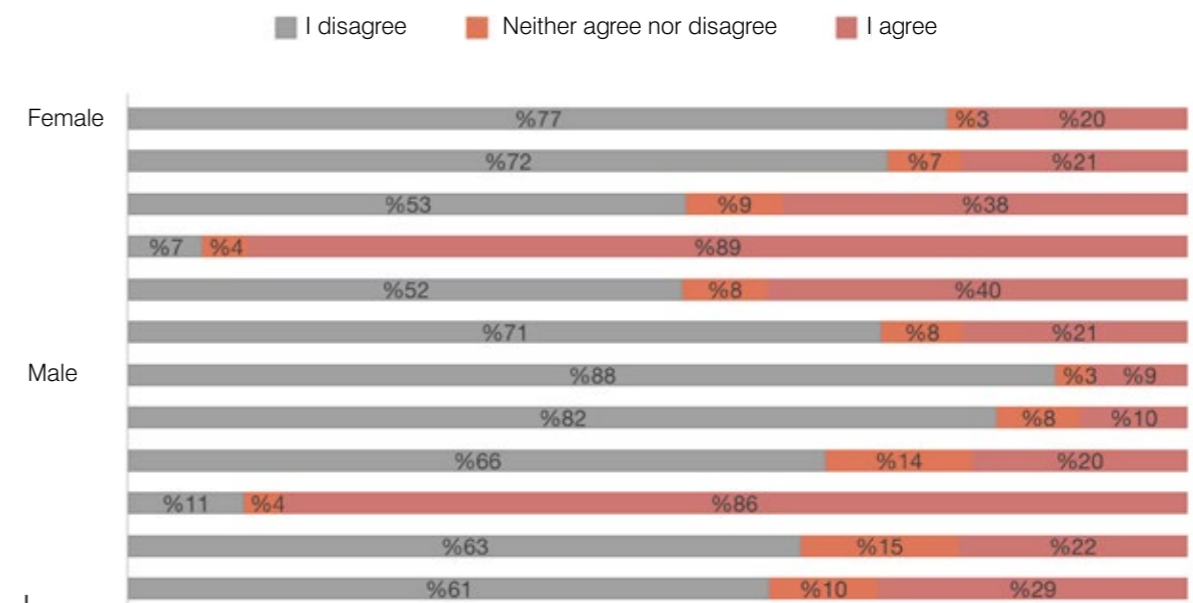
People emigrating from the forest villages do not return. Only 4% of the households in forest villages have family members who returned to their villages from the city.

## SOCIAL LIFE, GENDER AND ACCESS TO THE RESOURCES IN THE FOREST VILLAGES

### Perception and Attitudes towards Gender

Forest villagers displayed egalitarian discourse while answering the questions in regard to gender equality. On the other hand, although men and women are similar in terms of egalitarian discourse, the sensitivity of women is relatively higher. For example, only 15% of the region forest villagers agree and 82% (77% in males and 88% in females) disagree with the proposition that “if a child from a household will go to high school/university, a boy should go rather than a girl.”

A similar picture is painted in regard to the sharing of financial resources. While 16% of forest villages agree, 77% (72% in males, 82% in females) disagree with the proposition that “women should hand over all of their earnings to their husband.” 90% of the villagers support the idea of punishing men who resort to violence against their wives (See Graph 45). The major difference between women and men is their answers to the question on whether a woman should work or not if her husband opposes to it. While 20% of women only agree with it, this figure is almost doubled in men (38%).



Graph 45. Perceptions and Attitudes Regarding Gender

*“Back in the day, girls were not sent to school, but it is different now. I also have a daughter. I will send her to school even if I have to sell myshoes until she does not want to go.”*

*(Female, Mountain Village)*

*“Wherever he gets a job after receiving his university degree. If he became a civil servant, he continues in that path. If not, he enters to the tourism sector or a hotel. If the girls can't be a civil servant, they would get married. But now they too started to work. There is no one without a job.”*

*(Mukhtar, Transition Village)*

Although gender equality is observed the discourses of the forest villager, this egalitarian attitude has not been largely reflected on their behaviors. In the following parts of the report, gender in the terms of both perceptive and behavioral, the position of men and women in social life in villages, gender-based division labor and access to resources will be discussed.

## **Social Life in the Villages**

Men and women do not come together often except weddings and funerals. Men spend their spare time in a coffeehouse if the village has one. They also have other places and communities to socialize: men

can spend time in mosques, cooperative or association buildings, village head's offices, or places dedicated to meetings. Usually men go to the town for shopping, vehicle repair, and tasks to do with public institutions. The lack of gender equal social activities and spaces prevents women from socializing.

*“The village is boring: no activities, no parks, nowhere to exercise or have a cup of tea. You can only go on a visit in the evening”*

*(Female, Mountain Village)*

*“Women have no social activities in our village. We do not have a café or anywhere else to go. No place other than home. Men have their coffeehouses at least where they can spare time for themselves. Whereas women do not have, unfortunately.”*

*YAŞAMADAİR VAKIF/2017 51*

*(Female, Central Village)*

*“Men go on trips to the city center. There is no place for women to socialize there. I do not go; I go to the city center only if I need to. I do not go on a trip with my friends, for instance.”*

*(Female, Central Village)*

*“Men always hang out at the coffeehouse. It is open 18 hours a day. Whereas women just go to their neighbors on a good day, a bad day, a funeral day, or a wedding day.”*

*(Head of village, Central Village)*

*“Men meet at each other's homes, the mosque, or the coffeehouse. They meet outside in groups and visit neighbors and see each other while walking around.”*

*(Head of village, Mountain Village)*

*“Religious services and conversations are activities that bring the villagers together. Men socialize in the mosque and women socialize at homes. People come together during prayer times and when we hold meetings.”*

*(Head of village, Transition Village)*

Women have neighbor relationships with each other and they meet briefly during the day depending on the intensity of activities concerning agriculture, animal husbandry, and forestry. However, it is not really possible for anyone in a household to socialize during winter, especially for women.

*“We cannot visit each other in the winter, we can merely finish our work during the day. We visit neighbors in summer for an hour or two a day.”*

*(Female, Transition Village)*

It is harder for women to improve neighbor relationships in villages with a dispersed settlement and where the source of income is mostly animal husbandry.

*“We as women do not meet each other at all; one is busy with sheep, the other with something else. All apart from each other.”*

*(Female, Transition Village)*

There is no budget for leisure time activities due to financial difficulties.

*“I do not remember when was the last time I went out. We do not go out often due to financial difficulties.”*

*(Female, Central Village)*

Women spend their spare time with their families; the lack of a space to socialize is obvious when family members are not around. Especially young women complain about not having their own time because of work and childcare.

*“There is no place they can sit and chat together in summer. Women cannot come together; they are only with their own families. They cannot form relationships with each other.”*

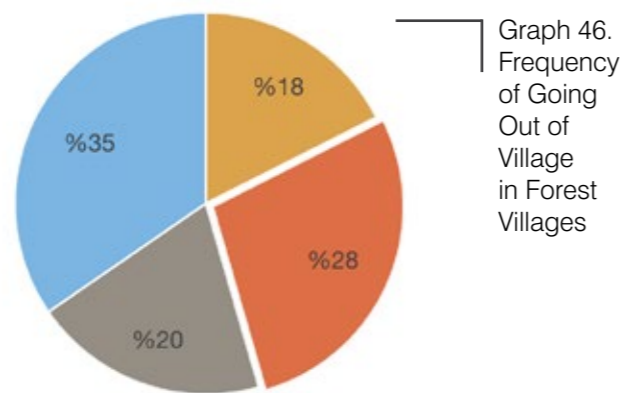
*(Female, Central Village)*



### Time Spent Outside the Villages

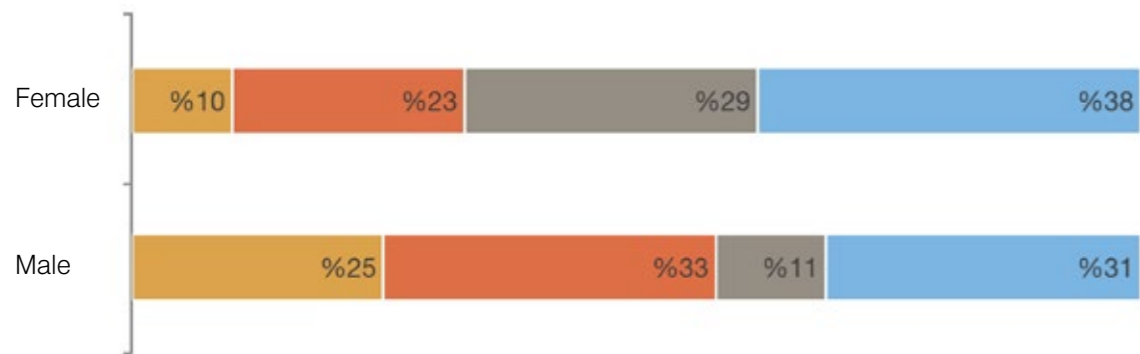
The ratio of men's going out of village and spending time out of village to women's shows that men spend time out of village more often than women including the times when they do not have to go. 17% of

forest villagers stated that they go out of village at least once a week, whereas 35% of them stated that they go out of village less than once a year. While 1 in 4 men go out of village at least once a week, this ratio is 1 in 10 for women. 68% of women stated that they go out of village less than once a year (see Graph 46 and Graph 47).



Graph 46. Frequency of Going Out of Village in Forest Villages

● At least once a week ● At least once a month ● At least once every 3 months ● At least once or less than once a year

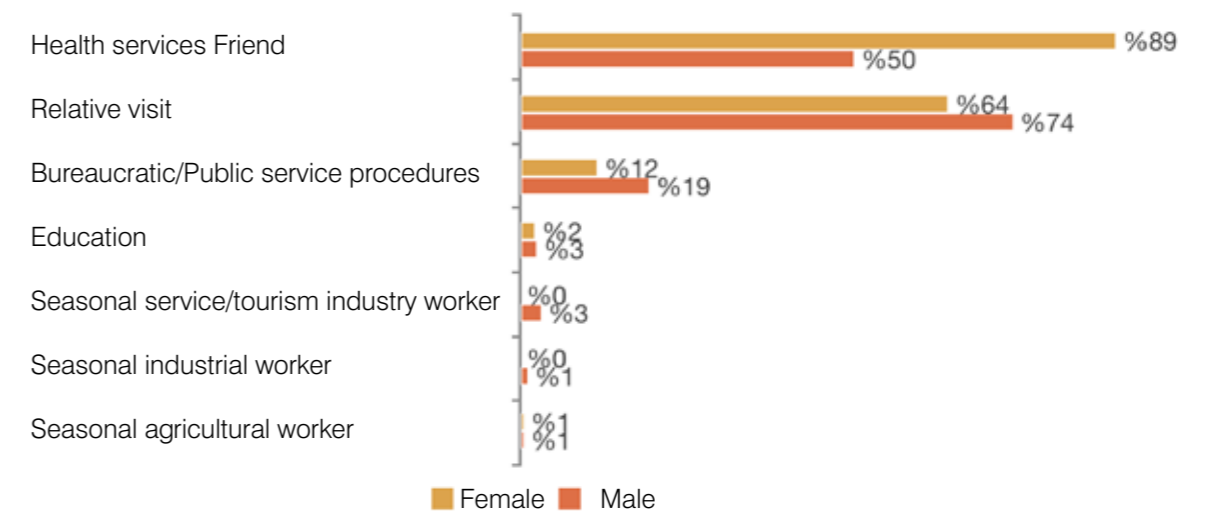


● At least once a week ● At least once a month ● At least once every 3 months ● At least once or less than once a year

Graph 47. Frequency of Going Out of Village by Gender

When the reasons for going out of village are examined, it is seen that women go out of village mainly for accessing health services, whereas men go out of village for socializing.

89% of women stated that they go out of village for health services while 74% of men stated that they go out of village to visit friends/relatives (see Graph 48).



Graph 48. Reasons for Going Out of Village by Gender

"We do not really go out of village to receive any services, we go only when we have a health problem."

(Female, Central Village)

"I went to Giresun 5 or 6 months ago. I went there because my daughter was going to labor."

(Female, Transition Village)

"I have not been to anywhere. Only if

there is a funeral. I think I had been to a funeral before the month of Ramadan."

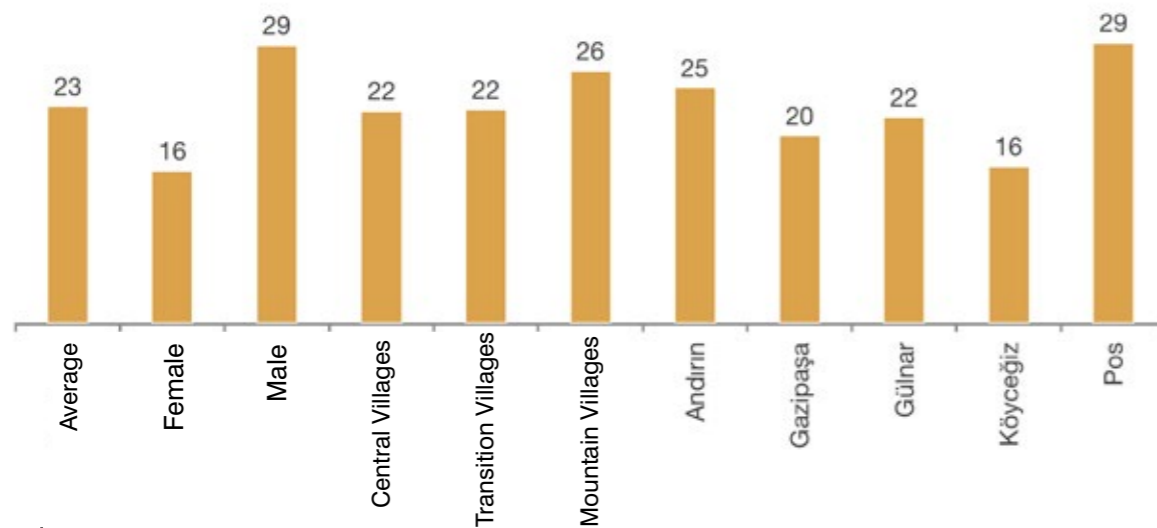
(Female, Transition Village)

"Men go on trips to the city center. There is no place for women to socialize there. I do not go; I go to the city center only if I need to. I do not go on a trip with my friends, for instance."

(Female, Central Village)

When the number of days spent out of village in the last year is examined, it is seen that men have spent time out of village two times more than women. While men spend around a month a year out of village, it is 16 days a year for women.

The number of days spent out of village is higher in Pos, Andırın, and Gülnar than other regions and in mountain villages than other categories particularly because of transhumance (see Graph 49).



Graph 49. Number of Days Spent Outside the Village in the Last Year

*"I have a child, my father in law has hypertension. Even if I go out, I worry about them. I could go if I wanted to but I cannot leave them, my conscience won't let me."*

(Female, Mountain Village)

### Division of Labor and Production in the Households

It is possible to mention two factors that determine the daily lives of young and

middle-aged married women: Main sources of household income and the roles women take related to these and the number of children and seniors in need of care in the household.

Various situations can be mentioned according to these factors. The first group is: women who "work full-time in her garden, farm, or field, taking care of her animals" and are also responsible for taking care of children and seniors as well as housework.

In the households of these women:

- Agriculture is the main source of family income.
- The woman works at the farm, does the housework and takes care of children and seniors at home.
- The woman shuttles back and forth between home and farm.
- In these households, animal husbandry is performed on a scale that it mainly provides family with food and occasionally contributes to household income.
- Animal husbandry activities are regarded as part of caregiver duties of a woman and taking care of animals is regarded as part of housework.

*"Women do all the work and men do not, to be honest. Men do not work at home at all. We as women do everything in the farm including hoeing, reaping, harvesting chickpeas, laying out gardens."*

(Female, Mountain Village)

The second group consists of women "who work in their garden, farm, or field part-time/seasonal and mostly take care of animals".

In the households of these women:

- Animal husbandry is an important source of income and the number of animals is high. Men, relatively, take responsibility for the care of the animals as their number increase.
- These villagers who do not own big farms do agricultural activities for the families' own food needs. In this case, the agricultural activities are regarded as part of housework.
- Women seasonally participate in farm work during the harvest of labor-intensive crops such as wheat.

*"Women take care of children and animals and men take care of their work. Women do housework; the daughter-in-law helps the mother-in-law. Men has nothing to do at home, they work."*

(Female, Transition Village)

*"If the men are employed as a logging worker, then they employ the wife together with him as cook or she helps her husband, pruning."*

(Female, Mountain Village)

The third group consists of women who work full-time in seasonal jobs and take care of animals as well as farm and garden work while they are also responsible for taking care of housework, children, and seniors at home.

In the households of these women:

- Agriculture and husbandry are not their main sources of income.
- The women are young or middle aged and they mostly work as greenhouse farm workers or factory workers seasonally with their husbands in their own villages or nearby cities.
- If they go to nearby cities to work in seasonal jobs, little children in need of care stay with the man's mother/the woman's mother-in-law within that period.
- Young people of the household also work seasonally in factories with the family.
- Women are responsible for greenhouse farm work, if they have in their villages, and housework and the care of animals.

*"Women have heavy workloads around here. Men usually go to market halls, spray crops, and such. Women work constantly in greenhouses and go home to cook and take care of the children. They do not mind although they work in the greenhouse."*

*(Female, Central Village)*

*"Women and men are equal around here, working all they in the greenhouse. The woman cooks and takes care of children; the man sits at*

*home and does the shopping. Going to the market and bazaar."*

*(Head of village, Central Village)*

*"The woman works as well if she has a greenhouse in season and out of season. We grow just for ourselves, we do not sell. Husband and wife help each other at work. And the women continue her work at home after she finishes in the greenhouse, whereas the man do not do anything at home."*

*(Head of village, Central Village)*

The fourth group is where more than one generation of women participate in labor force and the younger women have higher workloads. When women grow old or have a temporary/chronic illness, their workload. And women start to have a relatively easier life after their spouses retire.

### **Care of Seniors and Children**

Men do not take responsibility in taking care of seniors and children. Women are supposed to take care of their spouses' parents as well and they spend around two hours a day to care of the seniors in the family even if they do not share the same household. Women are more attentive to the needs of school-age children than men and they arrange their time within the day according to school hours.

### **Care of Animals**

Taking care of animals whether they are cattle or sheep is mostly women's duty. Women clean the barn, feed the animals and milk them first thing in the morning. The lower the number of the animals is, the more work of taking care of them is on the woman's shoulders.

*"The woman, like the man, takes care of her cows if she has any. What work would the man do at home? He comes home already tired. It would be nice if he helped her but that just is not the case. At least I do not know any men who help his wife."*

*(Head of village, Transition Village)*

*"Every woman takes care of her cow. Men go out for casual work."*

*(Male, Transition Village)*

*"The man's job is obviously taking care of sheep but it is a shared duty. The woman is a housewife and the man is the breadwinner of the family. Usually the woman milks the sheep. If there is not any work outside, she does her usual housework, makes tea, etc. There is no gender discrimination here, everyone does the same work because it is shared work."*

*(Head of village, Central Village)*

*"Women actually carry out husbandry activities like men. They help harvesting corn, do whatever work they can with wheat and milk the animals. Men do not have any work to do at home, they have it easier there, we can say."*

*(Male, Mountain Village)*

Men are not expected to take responsibility in taking care of the animals and any contribution they make in this regard is referred to as "helping women".

*"Usually women take care of the animals. Men work outside, in the forest or somewhere else. They help their wives at home. They help with the cows, the husbandry activities. They do not wash the dishes; of course, they do only if the woman is sick or something. Women handle the animals and farm work and do the cooking, washing, cleaning, etc."*

*(Female, Transition Village)*

Women are engaged in handicrafts particularly in winter. Young women produce and sell handicrafts in order to make savings or extra income in their spare time.

A typical day that exhibits women's daily routine in forest villages is as follows:

**Morning – UnTill Noon**

- The wake-up time is usually 5 a.m.
- Preparing breakfast, taking care of and milking the animals
- Preparing the household members for the day (sending children to school and husband to work and taking care of seniors)
- Washing the dishes, cleaning
- Dealing with farm work
- Preparing lunch

**Noon**

- Preparing lunch and taking care of the children when they return from school
- Making bread/pastry for the next few days or preparing food for winter during breaks from her other work in the afternoon
- Spending time with neighbors

**Afternoon – Till the Evening**

- Handling cattle, sheep, goats, and barnyard fowls
- Handling farm work
- Preparing dinner

**Evening**

- Taking care of the animals, milking
- Preparing dinner, clearing the table, washing the dishes
- Taking care of seniors and children
- Serving tea and fruits
- Sleep

A typical day that exhibits men's daily routine in forest villages is as follows:

**Morning**

- The wake-up time starts from 7 a.m.
- Having breakfast
- Leaving for work/farm

**Noon**

- Having lunch
- Going to the coffeehouse (the time spent in the coffeehouse can be longer during summer)

**Afternoon - Till the Evening**

- Work/Farm (they leave for farm work at later hours in summer and coffee/resting time takes longer)

**Evening**

- Quitting time
- Having dinner
- Going to coffeehouse/visiting neighbors
- Sleep

**Extra Work**

Men do extra work depending on season such as seeding and harvesting or spraying crops.

**Income Distribution and Sharing**

Although they work in the farm and handle the animals, women do not regard the work they do as income generating activities and think that they have a share in household income. They usually work under the direction of men in the household and consider men being the decision makers regarding household expenditure normal and think that is the way it is supposed to be.

*“How would I bring money? I only do the household work. My child had bought 50 chickens, there are 40 left of them. I feed them and barter their eggs for goods when I buy something from a hawker, sometimes I give chickens. (...) I do not see any money at home. I pay with chicken or eggs.”*

*(Female, Transition Village)*

*“I do not see a penny. My spouse buys everything for the household. We buy everything with money, egg, wheat, etc. We hardly make ends meet.”*

*(Female, Transition Village)*

Although women do labor intensive work, their unpaid labor is not considered of any value because the value of any labor is assessed according to the amount of income it generates.

*“I do not make any contributions; my husband earns income. I do most of the work in the garden, around sixty percent, but it does not generate income.”*

*(Female, Mountain Village)*

Inequality in household income distribution seems to be an issue that women are aware of but do not consider a problem.

*“Most women contribute actually. Women always work more and care more. Of course, it would not work without the man's support but women work more. Women do not get much in return, just food and clothing. Of course, what is purchased is for everyone, such as a farm or a vehicle. Women never buy anything just for themselves. I never bought anything for myself either.”*

*(Female, Central Village)*



## FOREST VILLAGERS' PERCEPTION OF CLIMATE CHANGE

Women who stated that they do equal work as men and the household income is distributed equally also stated that the head of household should be the man.

*"My husband. Because he works and we eat. I would be the head of household if I worked but he is since he works. I cook, I feed them."*

*(Female, Central Village)*

Almost no share of income is allocated to women's personal expenses and personal expenses are considered luxury. Personal expenses are limited to purchases from hawkers, which are made using savings earned from the sale of handicrafts they produce in their spare time or bartering with barnyard fowls. It is also observed that women help with each other's needs using their skills.

*"What would I do for myself, why would I spend money for clothing?"*

*(Female, Transition Village)*

*"We do not have a hairdresser here, the neighbor's daughter-in-law do a little bit of hairdressing free of charge."*

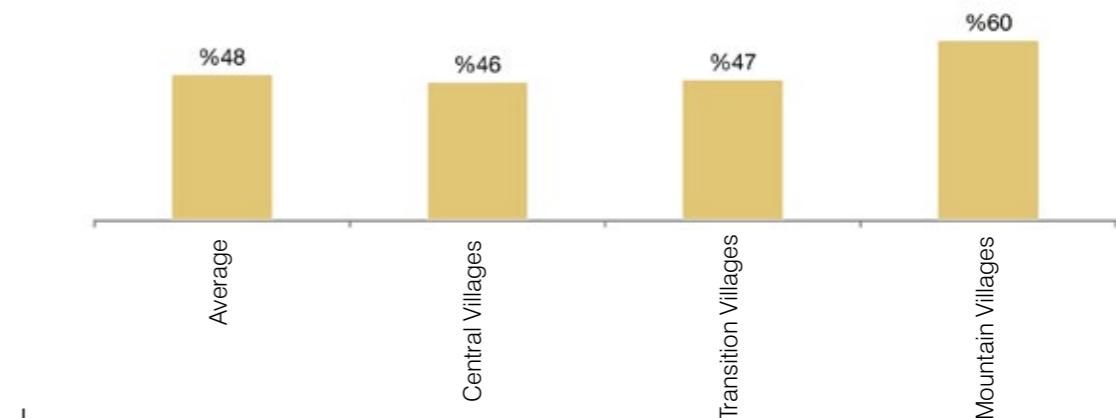
*(Female, Mountain Village)*

**Almost no share is allocated for women's personal expenses**

from the household income; personal expenses are considered luxury.

It is observed that forest villagers have awareness of climate change. When asked about climate change, the villagers stated that they directly feel it and they narrate how climate change affected their productive activities and income compared to the past. Also, they often point out that they experiment with alternative products in lieu of the traditional ones they produce in their agricultural activities to adapt to climate change.

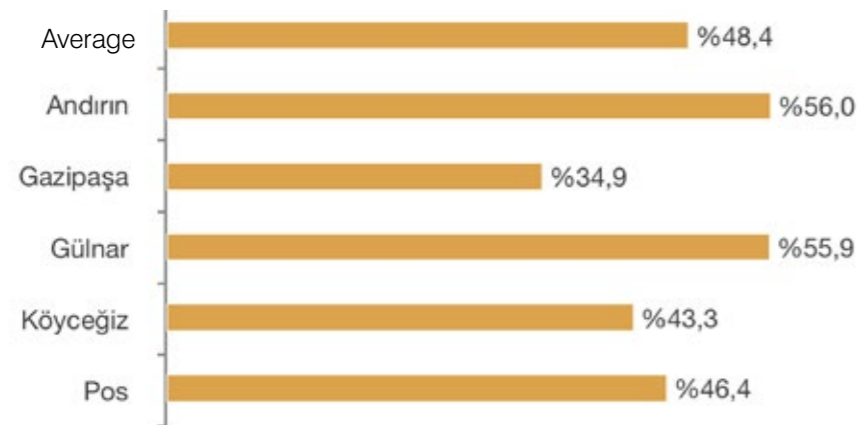
When asked about to what degree they feel climate change, around half of the subjects stated that they feel it (48%). This ratio is significantly higher particularly in mountain villages where they have fewer options in terms of income generating activities (60%) (See Graph 50).



Graph 50. People by Village Categories Who Stated that They Were Affected by the Climate Change

It is seen that climate change is felt the most in Andırın and Gülnar when examined region-wise. More than 55% of forest villagers

in Andırın and Gülnar stated that climate change is perceptible for them (see Graph 51).



Graph 51. People by Regions Who Stated that They Were Affected by the Climate Change

Forest villagers often stated that they have suffered yield losses and economic losses in detailed interviews. Temperature increase and drought were mentioned among the important issues.

*“Winters are colder now compared to the past. Summer comes later and winter comes earlier thus crops in the greenhouse are affected by the cold before they can grow properly and we receive half salary.”*

*(Female, Central Village)*

*“It is too hot in summer now. You cannot go out, you just sit at home. Look, our pumpkins in the garden got dried.”*

*(Female, Transition Village)*

*“Summers are hotter compared to the past. Winters are less rainy. Anamur and Gazipaşa are regions where rainfall has decreased. We do not have enough water for agricultural*

*activities. It affects both agriculture and animal husbandry.”*

*(Head of village, Transition Village)*

*“For instance, the weather has not been as warm as it should be this year. The weather is still cool right now, whereas it should have been above 40 degrees normally. Rainfall has increased; thus, we suffer losses both in citrus cultivation and beekeeping.”*

*(Female, Central Village)*

*“Drought happens very often. They drill and pump water underground in our village. They said it was the cause of the drought. It rained and snowed so much this year that we thought we would not have drought but it happened again. It poured down hail like stones as large as eggs here in this village last year, it was April or May.”*

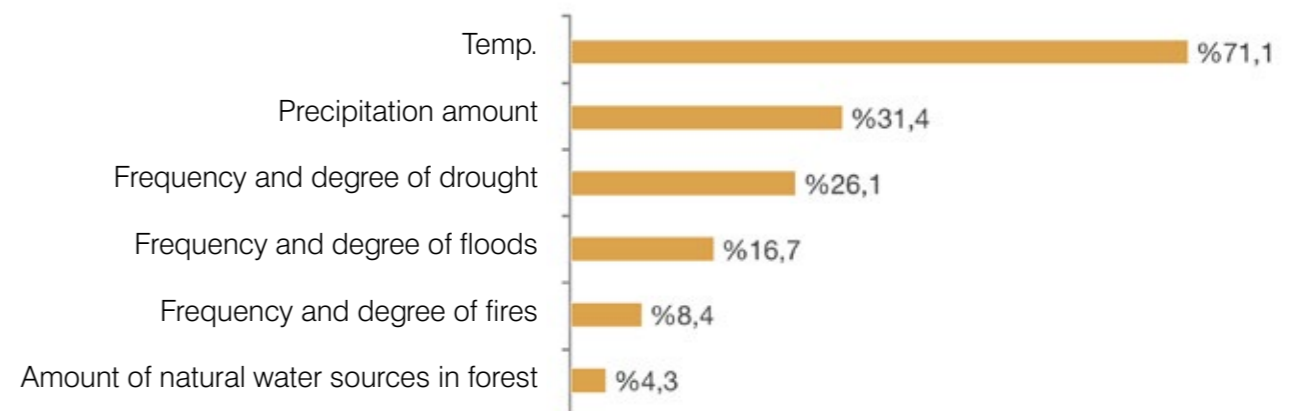
*(Female, Mountain Village)*

Forest villagers in Andırın and Pos regions stated that the hydroelectric power plants built around their villages have changed the character of the climate, making winters warmer and affecting precipitation regime, and therefore they cannot grow products they used to in the past due to the climate change.

*centimeters at most. Our roads are clear of snow but hail is a problem; it freezes our wheat and barley.”*

*(Head of village, Central Village)*

It is observed that precipitation being above or below seasonal climate normal, late winters, and dry summers are the issues that concern the villagers. More than 70% of the villagers stated that the temperature has increased and more than 25% of them stated that the frequency and degree of water scarcity and drought have increased (see Graph 52).

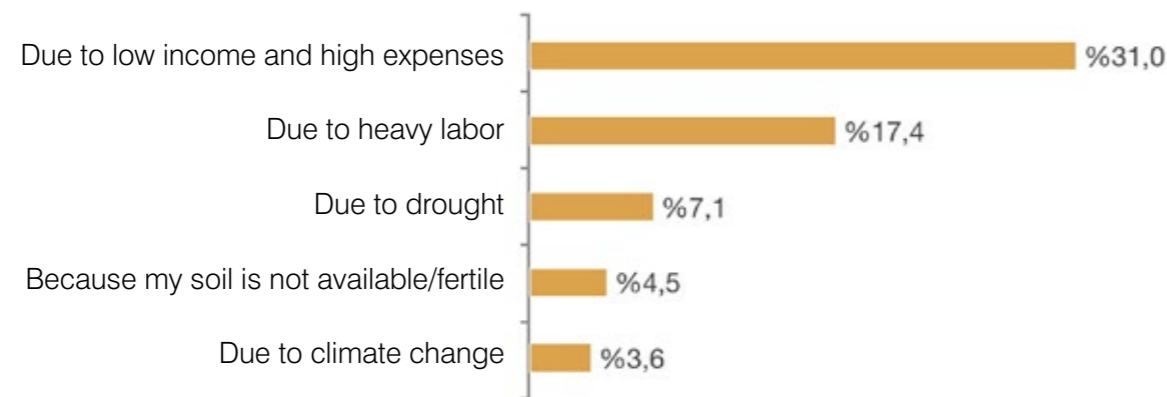


Graph 52. People Who Stated that Factors Contributing to the Climate Change Have Increased

## FORESTRY ACTIVITIES AND RELATIONSHIP WITH THE FORESTS

7% percent of villagers stated that they have quitted agricultural activities due to drought while 4% of them stated they did due to climate change. The main reason for quitting agricultural activities is that the balance of

income and expenses in agricultural activities has been disturbed and thus the income generated from agricultural activities has decreased. (See Graph 53).



Graph 53. Reasons for Quitting the Production of Crops

### Forest Villagers' Perception of Forest

Fuzzy cognitive mapping was applied in the scope of the survey concerning the forest villagers' perception of forest. For the fuzzy cognitive mapping, the participants were asked to list factors that increase and decrease the value of the forest in their eyes first and then connect the listed factors with the central concept of "Value of Forest".

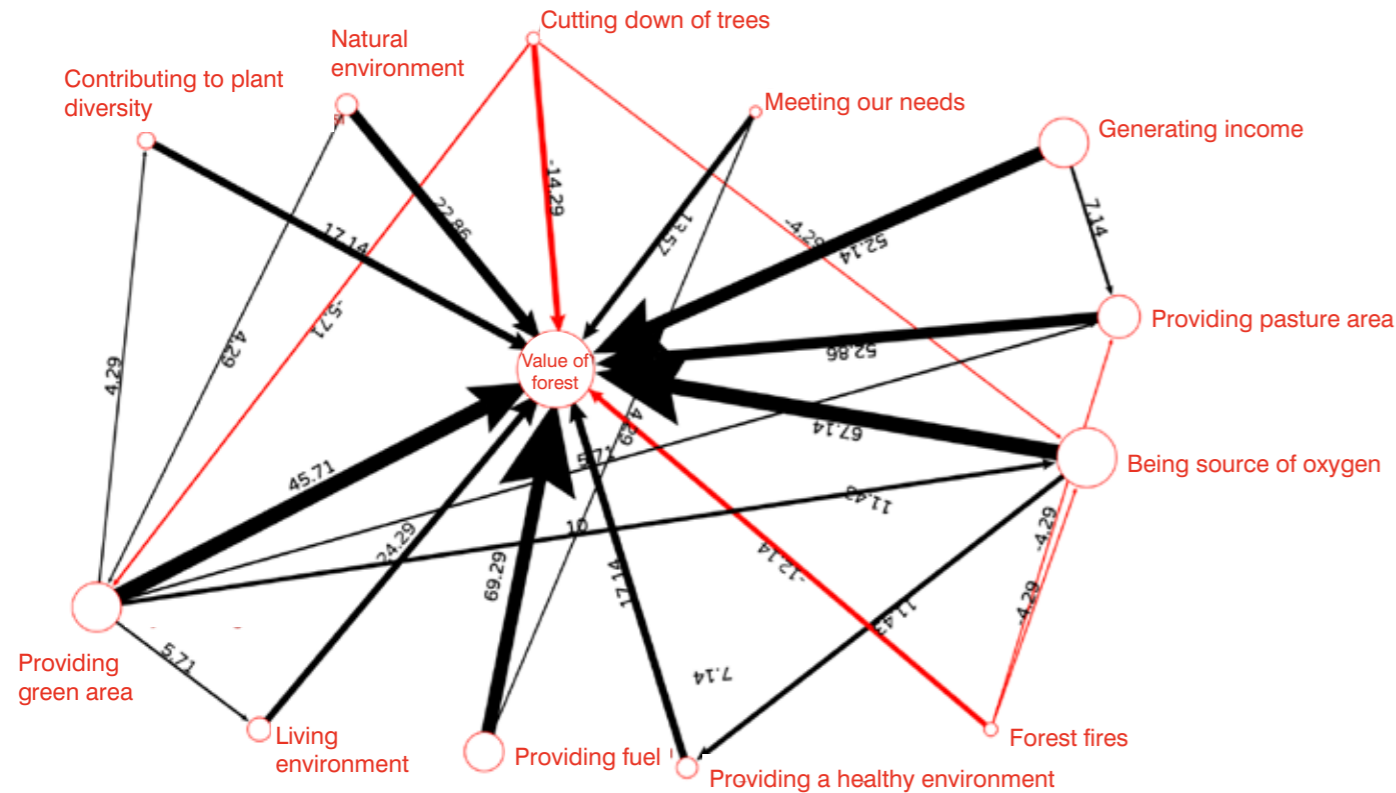
The integrated perception map, which is made up of individual perception maps, is a graphical representation of the perception of forest shaped around the central concept of Value of Forest. The results of analysis show that the value of forest in the eyes of the villagers comes from being a source of fuel and oxygen, providing pasture area and being a source of income.

Forest villagers have a pragmatic relationship with the forest, particularly in terms of fuelwood supply. On the basis of their perception of the forest as a fuelwood supply, which determines their relationship with forest, lies the wood production which is the main activity of meeting their heating energy needs as well as being a source of financial income.

Secondly, the forest being the source of oxygen is another important factor in their perception of it. Even though it does not generate income directly, having forest nearby is advantageous for them in terms of health compared to city life.

Another powerful factor that shape the perception of forest is that it provides them with pasture area. One of the reasons why small and medium sized husbandry activities are still sources of income is that animal feed expenses are lower thanks to the forest, meaning that villagers can pasture their animals in the forest.

The factors that negatively affect the value of forest in the eyes of villagers are wild pig attacks, cutting down of trees, forest fires, and destruction. Only one of these four factors, wild pig attacks, is related to the nature of forest, while the other three have to do with human activities rather than the forest itself. In conclusion, determinants of the value of forest the eyes of forest villagers are mostly the factors that are related to humans (see Graph 54).



Graph 54. Forest Villagers' Perception of Forest Value-Cognitive Map

Factors that affect the forest villagers' perception of forest were analyzed comparatively, dividing them by gender, age, and the category of village they live in.

When examined by gender, it was observed that women form more diverse relationships with forest on the perceptual level compared to men. Women consider forest a relatively more important source of household income compared to men. In women's perception, income generation is more closely correlates with forest compared to men's perception.

Varying factors that determine the value of forest in the eyes of men are wild pig attacks, cutting down of trees, and the forest having the potential to offer an employment opportunity.

When examined by age, the value of forest correlates more with it being a heating energy source in the eyes of villagers who are 40 or over 40 years old, while its value correlates more powerfully with it, being source of oxygen in the eyes of villagers under 40 years old.

We can say that significant variations were observed in forest perception when examined by the village category. Villagers who live in mountain villages have more powerful relationships with forest both in negative and positive aspects.

While propositions specific to economic relationships stand out in mountain villagers' perception, central villagers attach more importance to ecology/green area and transition villagers to the pasture area (see Table 7).

	Total	Male	Female	18 - 39	40 +	Central Villages	Transition Villages	Mountain Villages
Providing fuel	35	32	38	33	36	29	41	32
Being source of oxygen	34	34	33	40	33	28	36	42
Providing pasture areas	26	26	26	25	24	28	30	18
Generating income	26	18	34	25	24	25	27	30
Providing green areas	23	24	22	20	23	30	18	21
Providing spring water	17	9	25	25	11	15	25	11
Living environment	12	12	13	13	13	13	14	5
Natural environment	11	9	14	15	11	15	18	0
Providing wood for the house	10	13	7	5	12	11	7	8
Protecting from erosion	9	9	10	10	10	15	5	11
Large number of tree diseases	-2	-1	-3	0	-3	-3	-4	0
Other	-3	-3	-3	-10	0	0	-7	0
Animal deaths	-3	-3	-3	-5	-2	-5	-4	0
Not providing employment	-3	-6	0	-5	-2	0	-4	-5
Forest area being little	-3	0	-6	0	-4	0	0	-11
Being a hunting ground	-4	-3	-4	-5	-3	-3	-2	-8
Human-induced destruction	-5	-1	-9	-10	-4	-5	-1	-13
Forest fires	-6	0	-12	-1	-6	-6	-4	-11
Cutting of trees	-7	-12	-3	-5	-9	-10	-7	-5
Wild pig attacks	-8	-13	-3	-10	-7	-6	-7	-11

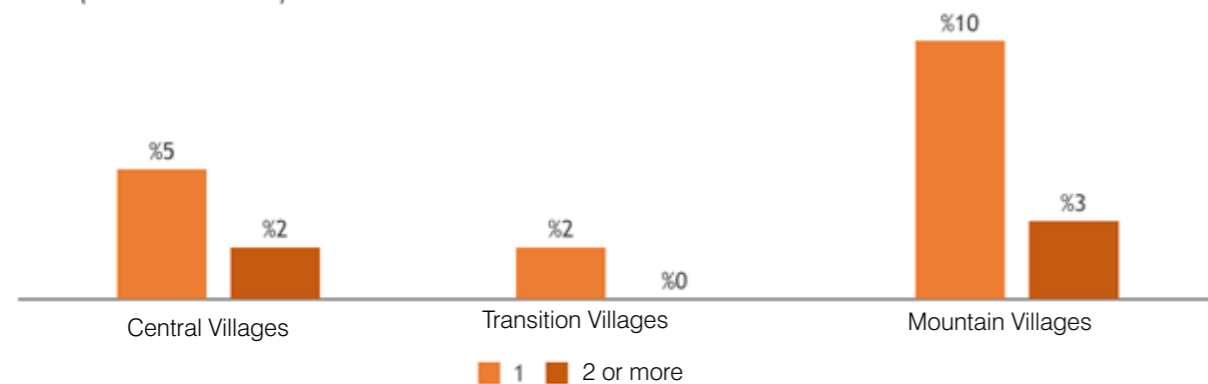
Table 7. Factors Contributing to the Forest Value by Categories



### Protection and Use of Forest

Forest villagers regard the income generated from forestry activities as side income for the household rather than a main source of income. Forestry jobs are defined as temporary jobs that are chosen to earn an income for some time when there are no other jobs available. When the number of

forestry workers in households is examined, it can be said that 7% of a household work in forestry jobs in central villages, whereas 2% of a household work in forestry jobs in transition villages. Forestry jobs are more popular in mountain villages; 13% of a mountain village household work as forestry workers (see Graph 55).



Graph 55. Number of Forestry workers in a Household by Village Categories

*“Other than forestry jobs, they work in sage, thyme, and bay leaf harvesting jobs and sell the products to wholesalers in Alanya. They earn pocket money like one or two liras. You can harvest bay leaf every three or four years. You do that in the forest and earn five or six liras.”*

*(Head of village, Transition Village)*

*“There is a forest here. We used to do chopping in the past but now we do not.*

*We were allowed to do anything before but the law has changed. Everything is changed by the municipal regulation. We are forest villagers but we can only go to the forest to pick herbs. We go if there is a cutting/chopping job. We used to have a closer relationship with the forest before but now we have a distance.”*

*(Head of village, Central Village)*

*“The forests used to be very rich in the past, then the state has trimmed them. We do not generate income from them anymore. The state owns them now. The villagers cannot use it at all.”*

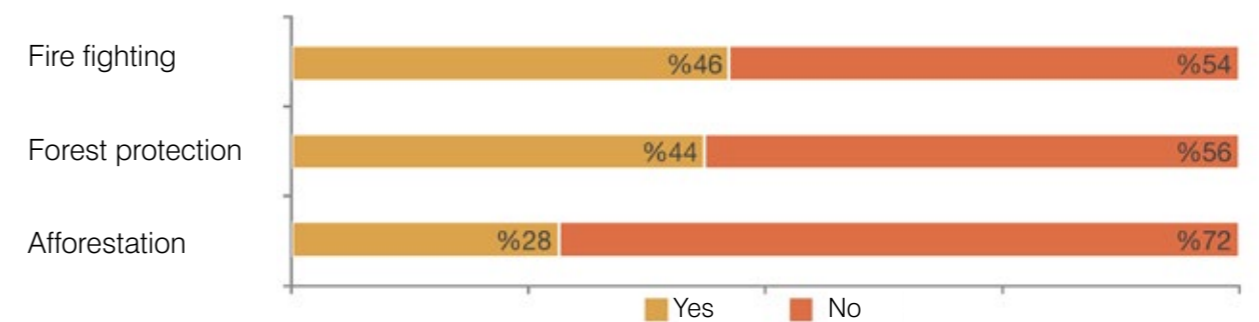
*(Head of village, Mountain Village)*

*“Before I started to work for the municipality, I used to work in wood chopping when there were such jobs, I have not work in any other forest related jobs. Now they are sold to contractors, and they do cutting/chopping. Villagers cannot do anything in the forest anymore. There was a cooperative but it*

*went bankrupt. There are no sources of income in general. “*

*(Head of village, Central Village)*

Village heads were asked whether any afforestation, forest protection, or firefighting activities were conducted by the forest district directorate with the participation of villagers in the last decade. It is seen that forest protection and firefighting activities were done in the half of forest villages. Afforestation activities were done with the participation of forest villagers in 28% of forest villages (see Graph 56).

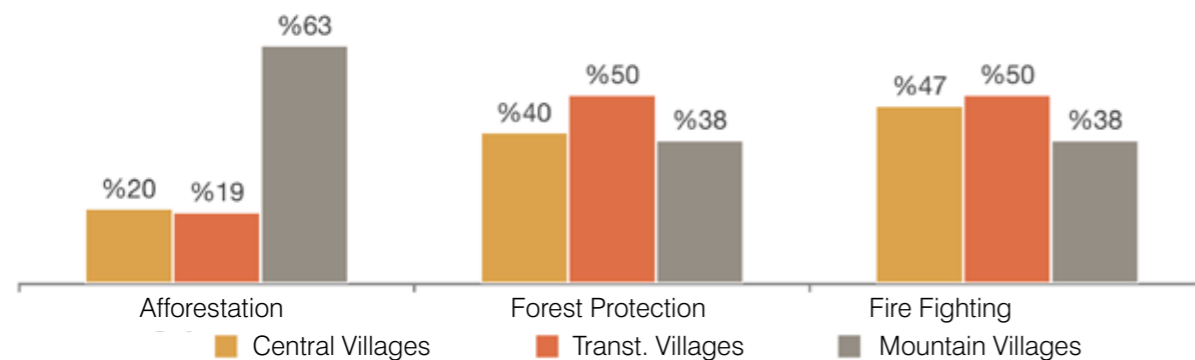


Graph 56. Forestry Activities Conducted in the Last Decade

## FOREST VILLAGERS' PERCEPTION OF THE GDF AND THE FVRD

While the participation in afforestation activities are low, participation in forest protection and fire-fighting activities are high in central and transition villages. When the distribution of forestry activities was examined by village category, it is seen that

afforestation activities were done in 63% of mountain villages, forest protection and firefighting activities were done in the half of transition villages and forest protection activities were done in 40% and firefighting activities were done in 47% of central villages (see Graph 57).



Graph 57. Forestry Activities Conducted in the Last Decade by Village Categories

### Perception of the General Directorate of Forestry (GDF)

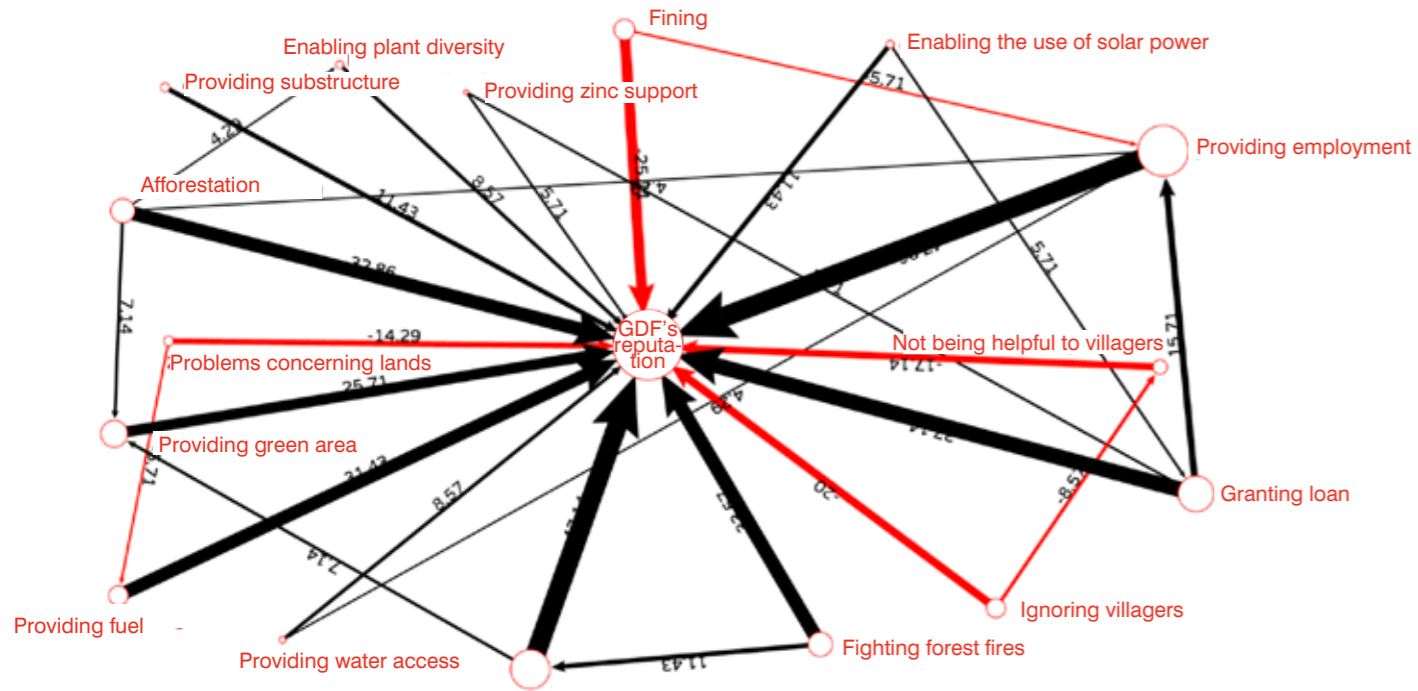
Fuzzy cognitive mapping was applied in the scope of the survey with participation of 35 forest villagers concerning the perception of the General Directorate of Forestry. Participants were asked following questions: “what is the value of General Directorate of Forestry and Forest District Directorate for you? Can you list the factors that increase and decrease the value of General Directorate of Forestry and draw a map connecting them?” and they were asked to draw a perception map made up of reasons they listed. Integrated perception maps were created by merging maps given in interviews.

In forest villagers’ perception of the GDF, its economic benefit and its benefit concerning forest protection have similar power. The most powerful factors that positively affect the reputation of the GDF among forest villages are that it provides employment and grants loan and conducts activities such as forest protection, firefighting, and afforestation. GDF’s services concerning fruit trees, beekeeping, greenhouse cultivation,

and non-wood forest products are not directly correlated with GDF’s reputation. GDF’s services that are easily remembered by the villagers could be listed as follows: providing employment for villagers— although less frequently compared to the past— (it being providing employment is perceived both positively and negatively), protecting the forest, fighting fires, providing villagers with fuelwood, and granting loan.

When women’s and men’s perceptual maps are examined comparatively, a significant differentiation is observed with respect to being ignored. The relationship ‘being ignored’ whose effect point is 20 is 34 in women’s map and 6 in men’s map. In other words, women think that GDF ignores villagers (especially women).

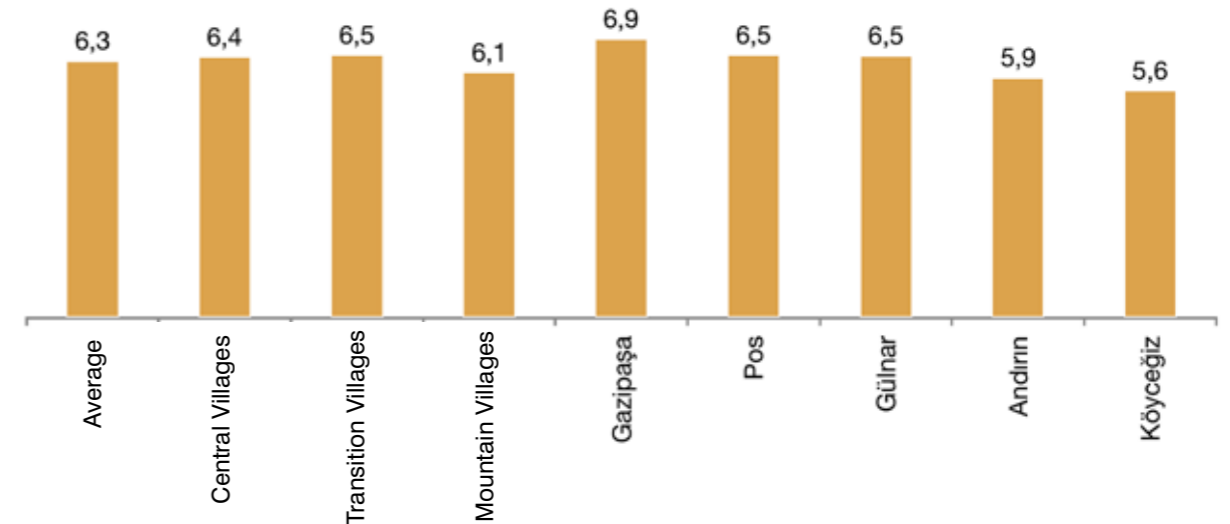
GDF’s value in the eyes of villagers is not directly connected with the forest; therefore, the benefit is expected of the forest directly. The factors that negatively affect GDF’s reputation among villagers are that it punishes by fining and is less helpful than it can possibly be as well as its poor communication with the villagers (see Graph 58).



Graph 58. Forest Villagers' Perception on the Reputation of the General Directorate of Forestry-Cognitive Map

The villagers were asked to rate the reputation of General Directorate of Forestry on a scale of 1 to 10 with 1 being "Not Reputable At All" and 10 being "Extremely Reputable" in the scope of the survey. Forest villagers rated GDF's reputation 6.3 on 10. When the breakdown of this rating is examined, its physical closeness to local Forest District Directorate is effective on GDF's reputation. GDF's reputation is

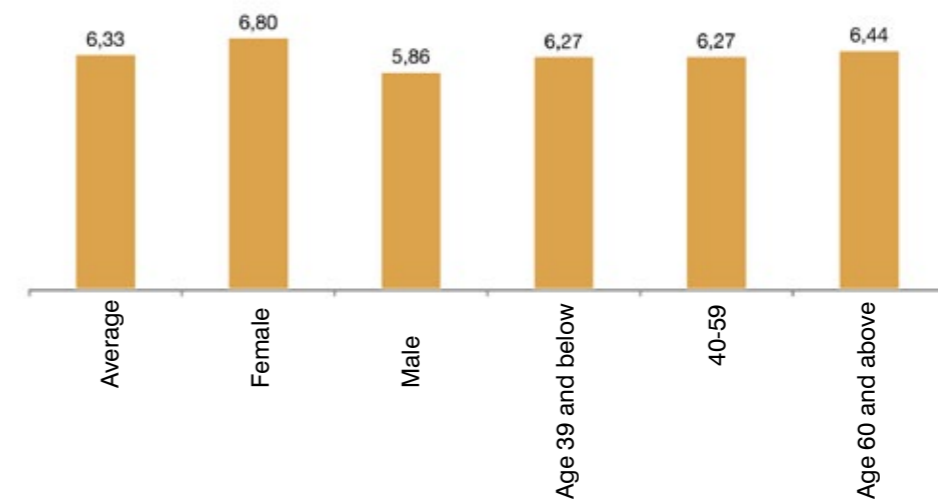
significantly higher in central villages and transition villages compared to mountain villages. Also, we can say that there are regional differences in terms of the perception of the Forest District Directorate. GDF's reputation got the highest score in Gazipaşa while it got the lowest score in Köyceğiz where sources of income are relatively diverse and dependency to the forest and Forest District Directorate is low (see Graph 59).



Graph 59. Reputation of the GDF by categories

GDF's reputation is significantly higher among men compared to women. While man rate GDF's reputation 6.8 on 10, women rate

it 5.9. GDF's reputation does not show a significant variation by age (see Graph 60).

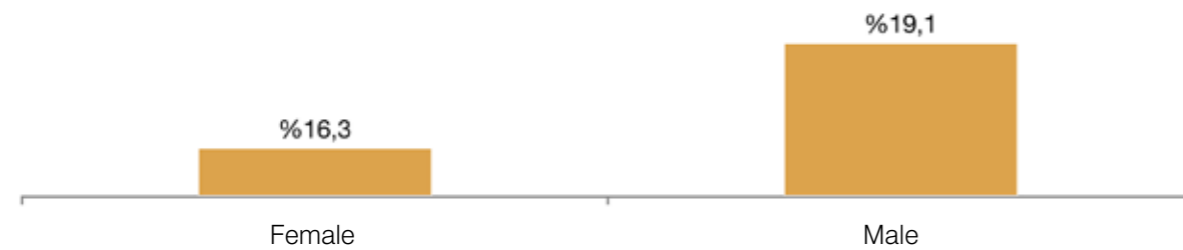


Graph 60. Reputation of the GDF by demographics

### Perception of the FVRD

The factors that increase and decrease FVRD's (Forest-Village Relations Department) reputation were asked in detailed interviews conducted with participants. Convenient payment terms and solar power support were the most frequently mentioned factors when participants were asked about FVRD. Negative factors mentioned were rejection of applications, applications being difficult make, not being able to receive sufficient

information and negative experiences of those who had payment difficulties. Around 18% of households in the region stated that they had got FVRD loan. When examined by gender, this ratio is 16% for women and 19% for men. Such a differentiation was not expected since the data were collected on a household basis; however, it is possible that some of the women do not know whether a FVRD loan was used by their household or not (see Graph 61).

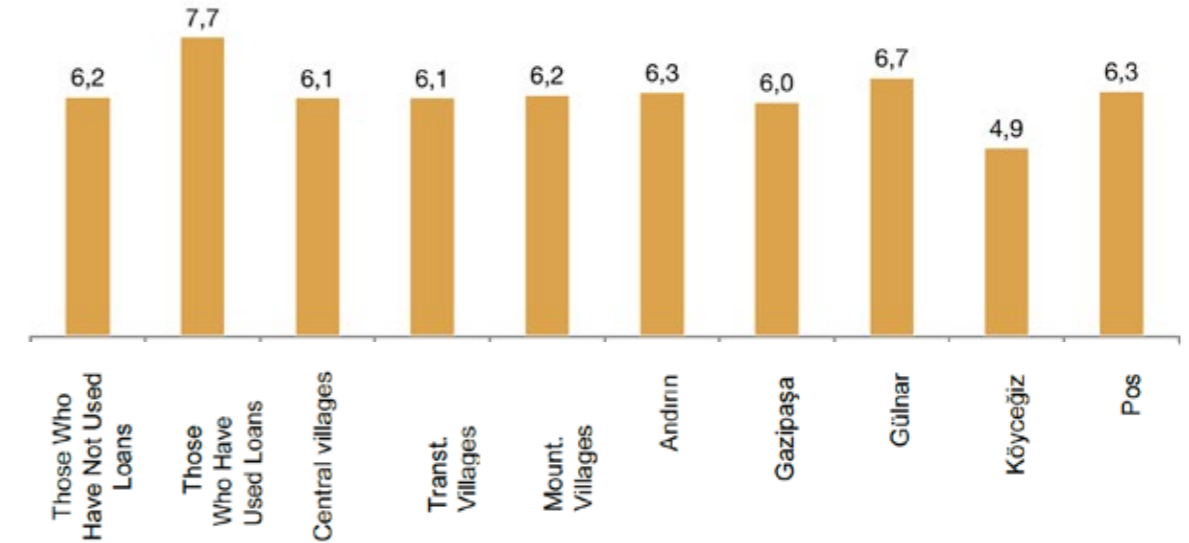


Graph 61. Use of FVRD Loan by Gender

The forest villagers were asked to rate FVRD's reputation for the quantitative aspect of the survey. The forest villagers rated FVRD's reputation on a scale of 1 to 10 with 1 being "Not Reputable At All" and 10 being "Extremely Reputable". FVRD's reputation parallels GDF's reputation. Having used loans is a factor that increases FVRD's reputation significantly.

While villagers who had not used FVRD loan rated FVRD's reputation 6.2, villagers

who had used a FVRD loan rated 7.7, around 15% higher than the former. FVRD's reputation does not show variation among village categories, whereas it does among regions. FVRD's reputation is rated 4.9 in Köyceğiz where villagers have more chance of supplying solar power from private sector, while it is rated above 6 in Gülnar, Pos, and Andırın which are regions with high altitude and have more powerful relationships with the forest (see Graph 62).



Graph 62. Reputation of The Forest-Village Relations Department by categories

Forest villagers' support expectations are not specified and varied. Nearly half of the forest villagers demand agricultural support (58%) and the other half demand husbandry support (46%). Central and transition villagers from Gazipaşa, Gülnar,

and Köyceğiz demand agricultural support while forest villagers and villagers from Pos demand husbandry support. No significant variation was observed between women and men concerning support expectations (see Table 8).

	Central Villages	Transt. Village	Mount. Villages	Andırın	Gazipaşa	Gülnar	Köyceğiz	Pos	Female	Male
Agriculture	61%	64%	37%	27%	82%	82%	73%	30%	54%	61%
Husbandry	40%	42%	62%	72%	24%	32%	27%	65%	40%	51%
Beekeeping	1%	5%	3%	0%	5%	1%	8%	1%	2%	3%
Roof covering	1%	1%	1%	1%	0%	1%	0%	2%	0%	0%
Solar Power	0%	0%	1%	0%	0%	0%	0%	2%	0%	1%
Other	8%	6%	7%	9%	6%	2%	10%	11%	10%	7%
No Idea	2%	2%	1%	1%	1%	1%	3%	4%	2%	0%

Table 8. Forest Villagers' Expectation of Support by Categories



### Access to Welfare, Health and Public Services

The forest villagers were asked to rate 12 propositions about safety, equality, food supply, access to public services, sanitary and health conditions, livelihood, and state support on a Likert Scale of 1 to 5 with 1 being "I do not agree at all" and 5 being "I completely agree". The forest villagers do not think there are safety concerns in their villages. The proposition "there are no safety concerns in our village" was rated 4.1 on 5 by the villagers and 89% of them rated the proposition 4 or 5. Although most of them stated that they have not been discriminated based on their religion or ethnicity in general, nearly 8% of them stated that they were discriminated, which is worthy of consideration.

The forest villagers rated the propositions regarding access to healthy food, adequate nutrition, and drinkable water similarly. 16% of the forest villagers who rated these three propositions 3.7 stated that they cannot access healthy food, 27% of them stated that not every member of their family gets adequate nutrition and 23% of them stated that they do not have drinkable/ clean water. While 30% of the forest villagers think that they do not receive adequate health service and 42% of them stated that education opportunities are not adequate in their villages. Ratings for health services significantly vary between men and women. While women rate the proposition "I receive adequate health service" 3.1, this score is 3.7 with men (see Appendix 4). Merely 29% of the forest villagers think that their income is enough for meeting their needs (see Graph 63).

Graph 63. Access to the Welfare, Health and Public Services



There is a significant variation between village categories in terms of access to food, health services and education. Mountain villagers' scores for access to services are lower than central villages (access to health services is 3.6 in central villages and 3.0 in mountain villages, access to education is 3.2 in central villages and 2.7 in mountain villages) (see Table 9). It is observed that women more satisfied with family medicine services because of family physicians' weekly visits. However, remoteness from general hospitals is considered a problem and it is stated that health services, which are in an accessible distance, are inadequate. Besides, because hospital operations can take more than one day and/or appointments can be on different dates, it is harder for women. The frequencies and routes of the buses that enable access to the city center

constitute a problem particularly for women. Women do not prefer taking these buses because they are not frequent enough and they take the main road instead of the village road.

They think that there is an improvement in education services compared to the past. Shuttle services to villages, which do not have primary schools and secondary/high schools having dormitories, are considered equality of opportunity for female students.

Male villagers' perception of access and safety is significantly more positive than that of women. While almost all men fully agree that there are no safety concerns in their villages, women have a significantly different perception of safety in the villages, finding it lower (see Table 9).

	Central Villages	Transition Villages	Mountain Villages	Female	Male
There are no safety concerns in our village	4.1	4.2	4.1	3.9	4.4
I receive equal treatment irrespective of my religion	4.1	4.0	4.0	3.7	4.4
I receive equal treatment irrespective of my ethnicity	4.1	4.0	3.9	3.7	4.3
I have access to healthy food	3.8	3.6	3.5	3.6	3.8
Every member of my family has adequate nutrition	3.7	3.7	3.5	3.6	3.7
I have drinkable/clean water	3.7	3.6	3.3	3.5	3.7
I receive all health services in full	3.6	3.4	3.1	3.1	3.7
We have easy access from our village to the city	3.6	3.3	3.0	3.1	3.6
Villagers here have adequate education opportunities	3.2	3.1	2.7	2.8	3.3
I receive financial aid from the state when I need it	2.8	2.8	2.8	2.5	3.1
I receive financial aid in kind from the state when I need it	2.8	2.7	2.7	2.4	3.1
Our income is adequate to meet our needs	2.8	2.9	2.6	2.7	2.9

Table 9. Access to Welfare, Health and Public Services by Village Categories and Gender

Factor analysis was carried out with 12 propositions on the scale and 4 propositions were raised as a result (see Appendix 3): health / sanitary conditions, access to services, equality, and state support.

In general, the perception of equality and health / sanitary conditions is at high-level in forest villages and it commonly intersects every forest village category. However, the villagers clearly have a demand for access to public services. Access to public services is an important demand particularly in remote mountain villages. Three village categories significantly differ from each other in terms of access to services. While the perception of access to services is more positive in central villages, it is significantly negative in mountain villages. In addition to the issue concerning access to services, the forest villagers think that the state do not support them when they are in need, and this perception intersects all of the three forest village categories (see Table 10).

Women give lower ratings to all the propositions that constitute welfare, health and access clusters compared to men. Women's average ratings especially for equality, access to services and state support differ from those of men. Women's scores for access to services, equality, and state support are 16%, 18%, and 25% lower than those of men's, respectively. (See Table 11).

	Female	Male
Health/sanitary conditions	3.66	3.88
Access to services	2.90	3.36
Equality	3.69	4.37
Public support	2.47	3.10

Table 11. Welfare, Health and Access Clusters by Gender

	Health / Sanitary conditions	Access to services	Equality	Public support
Central Villages	3.83	3.28	4.07	2.85
Transition Villages	3.77	3.15	4.03	2.72
Mountain Villages	3.61	2.86	3.99	2.76

Table 10. Welfare, Health and Access Clusters by Village Categories

## RESULTS

The most common result of the research for the Socioeconomic Structure of Forest Villages is that the forest villages situated on the Mediterranean coastline of Turkey have transformed both in terms of villagers' relationship with the forest and in demographic terms and the term "forest village" does not represent a separate category of rural area as much as it did in the past.

### • Villages Diversify

In addition to the forest villages' weakened relationship with the forest and the decrease in their differences from other types of villages, it is observed that they also have differentiated among themselves in terms of this transformation. Forest villages have different characters in terms of distance to the city center, land type, altitude, demographic structure, and means of livelihood. There are villages that do not have the features of a forest village, not even the features of a village, and that rather resemble a town with improved agricultural and tourism opportunities as well as villages that do not have any sources of income other than forestry and small-scale husbandry in the region.

It has become harder for the definition of forest village to apply to both of these two

village types. 3 clusters that are based on the distance to the city center, altitude, number of households, and economic relationship with the forest were proposed in the scope of the research: central villages, transition villages, and mountain villages. This clustering differs from the categorization defined in the Articles 31 and 32 of the Forest Law and separates villages defined in the Article 31 from each other both geographically and demographically. According to this clustering, 39% of forest villages are central villages, 41% of them are transition villages and 20% of them are mountain villages.

### • Relationship with Forest Weakens

Forest villages' economic relationship with the forest weakens gradually. Usually the forest is not considered an area of economic value. Besides, forestry has become a working area that is less reputable and diminishing and becoming obsolete. Forestry jobs are perceived as temporary jobs that are chosen when there are no other jobs available. They do not provide enough motivation to stay in the village especially when compared to the stable salary jobs with benefits in the city or mines. The use of forest is limited to the supply of fuelwood. Besides, while working with wood products is considered an economic activity, working with non-wood products is not considered an economic activity in the region in general.

There are economic activities carried out with non-wood products only in certain villages (beekeeping in Köyceğiz, bay leaf in Andırın) thus this does not apply to the region in general.

### • Demography Is Transforming

Forest villages age in parallel with the transformation process in the rural area in Turkey; however, this aging is not a result of population growth rate, rather it is a result of migration. There are different means for migration for young people who dream of a different life in the city: education, marriage, finding a job with benefits. Primary factors that drive migration are the belief that the city life will be better than the village life (easier for women, more opportunities for men), not preferring forestry and agricultural activities in the village over a job with benefits in the city even if the former ones generate higher income, not seeing a future in the village and the idea that education will provide advantage in the process of job search. There are no powerful motivations to keep young people in the village. Young people who have not migrated are the ones, who did not believe that they were successful in school, did not marry someone from the city due to their lack of social network in the city or have taken the responsibility of taking care

of their parents or other seniors in the family. Their motivation for staying in the village is necessity rather than carrying out agricultural production. Although not as powerful as in young people, middle-aged villagers also think that they might need to migrate to the city one day even if it is not their current concern. Late-middle-aged people's primary motivation for migration is economic. Disturbed balance of income and expenses and limited sources that could compensate for that strengthen middle aged people's belief that they will migrate one day. However, social bonds in the village prevent them from choosing a riskier life in the city over their accustomed life in the village.

### • Relationships with City Strengthen

Forest villages are in closer connection with the city compared to the past. Factors such as accessing to public services, meeting basic needs and being in touch with family members living in the city bring closer interactions with the city in forest villagers' daily lives. Opportunities for accessing basic services increase in forest villages. Among the mentioned problems concerning basic services, the quality of services is criticized more than access problems.

## APPENDIXES

### • Life Gets Harder for Youngsters and Women

The traditional division of household labor both inside and outside the house increase the workload of youngsters and women in particular. In addition to the labor intensive work that generates income, women and youngsters (especially young women and sometimes children) take the responsibility of unpaid housework.

Women have a role in almost all of the income generating activities, notably husbandry (care of animals, milking, cleaning barns). However, the contributions of women to these income-generating activities are invisible to the eyes of the communities and the institutional system. Being ignored stands out in women's perception of the GDF. Besides, women have very limited and sometimes no say in the use of financial sources generated from these activities. For instance, while women in husbandry activities carry out most of the work, men

sell the products. Men also sell products of agricultural activities. Because they are not included in the financial part of the activities, women consider all the activities they carry out as housework and do not regard their labor as part of this economic value and do not feel like they should have a say in the economic value generated.

The social life in the village is also limited for youngsters and women. Only adult males have access to all the public spaces such as coffeehouse and mosque. One event in which women and men get together is weddings. Women do not have the chance to socialize in between their work inside and outside the house and feel isolated.

### Appendix 1. Clustering Model

40 villages within the sampling scope were divided into 3 clusters in two-step cluster analysis carried out with four categorical variables (level of economic relationship with the forest, number of households in the village, altitude of the village center, distance of the village from the nearest town center where villagers access basic services). The number of clusters was kept small in the cluster analysis not to use numerical variables and to keep the minimum number of villages in an ideal level for comparable analysis, taking into consideration the small

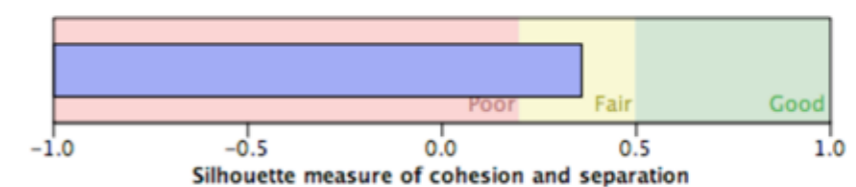
number of the sampling. In the event that the number of clusters was kept small, discrimination level is expected to be low. Nonetheless, the discrimination of the cluster analysis carried out is statistically significant.

Note: Discrimination of a cluster analyses has 3 levels: weak, applicable, and powerful. The level of discrimination in the analysis depends on the number of clusters, the number of numerical variables included in the analysis and the size of sampling. It is possible to increase the number of clusters and reach higher levels of discrimination in analysis with larger numbers of sampling.

#### Model Summary

<b>Algorithm</b>	TwoStep
<b>Inputs</b>	4
<b>Clusters</b>	3

#### Cluster Quality





**Appendix 2. Fuzzy Cognitive Maps Summary Table**

	Integrated map	GDF's reputation	Value of Forest
Volume	4%	2%	2%
Number of Reasons	96	96	96
Number of Relationships	378	194	198
Number of Loop Relationships	17	14	5
Number of Senders	28	29	24
Number of Receivers	2	3	2
Number of both Senders and Receivers	66	44	36

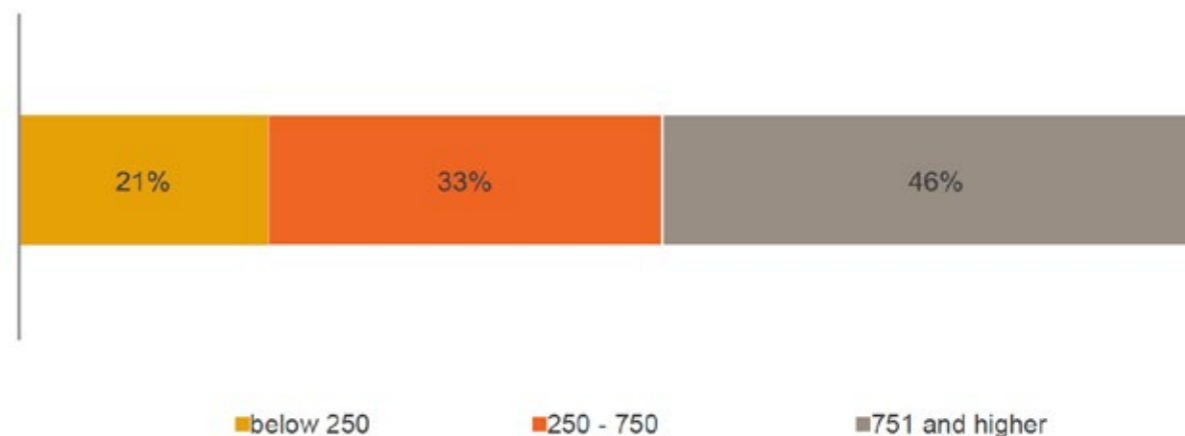
**Appendix 3. Factor Analysis**

Propositions	Factor	1	2	3	4	Factor name
I have drinkable/clean water	1	0.70	0.11	0.06	-0.02	Health / Sanitary conditions
I have access to healthy food	1	0.80	0.20	0.18	-0.02	Health / Sanitary conditions
There are no safety issues in our village	1	0.48	-0.08	0.43	0.04	Health / Sanitary conditions
Every member of my family has adequate nutrition	1	0.76	0.19	0.07	-0.03	Health / Sanitary conditions
I receive health services in full	2	0.13	0.76	0.17	0.00	Access to services
Villagers here have adequate education opportunities	2	0.02	0.81	0.16	-0.01	Access to services
Our income is adequate to meet our needs	2	0.43	0.53	0.01	0.12	Access to services
We have easy access from our village to the city	2	0.17	0.59	-0.03	0.14	Access to services
I receive equal treatment by the state irrespective of my religion	3	0.12	0.17	0.92	0.07	Equality
I receive equal treatment by the state irrespective of my ethnicity	3	0.15	0.14	0.92	0.10	Equality
I receive financial aid from the state when I need it	4	0.00	0.05	0.09	0.97	State support
I receive aid in kind from the state when I need it	4	-0.03	0.11	0.07	0.96	State support

**Appendix 4. Welfare and Access to Health and Public Services by Gender**

	Female	Male
I fully receive health services	3.09	3.67
People living in this village have full access to education	2.75	3.31
Our income is sufficient to meet our needs	2.65	2.88
I have access to drinkable/clean water	3.52	3.65
I have access to healthy food	3.58	3.78
There are no safety issues in our village in general	3.92	4.35
Our village has easy city access	3.10	3.59
I receive equal treatment by the state irrespective of my religion	3.70	4.39
I receive equal treatment by the state irrespective of my ethnicity	3.68	4.34
I receive financial aid/support from the state/public institutions when I need it	2.50	3.09
I receive aid in kind/support from the state/public institutions when I need it	2.43	3.11
Every member of my family receives enough food	3.63	3.72

**Appendix 5. Village Center Altitudes (176 Villages)**





**Socio-Economic Structure  
of the Forest Villages** | Perceptions, Needs,  
Opportunities and Strategies

