



MONTENEGRO AND ALBANIA TOWARDS ZERO WASTE

RESEARCH ON PRODUCTION AND TREATMENT OF WASTE IN THE MUNICIPALITY OF GUSINJE

Prepared by:





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INTRODUCTION

The research is conducted in the municipality of Gusinje under the project Montenegro and Albania towards Zero Waste CFCU / MNE / 160/01. The project is financed by the EU through the IPA program for cross-border cooperation between Montenegro and Albania. It is implemented by the Regional Development Agency - RDA Bjelasica, Komovi and Prokletije, aiming to develop the first local zero waste strategy in Montenegro.

By amendments to the Law on Territorial Organization of Montenegro, in February 2014, Gusinje was established as the 23rd municipality in Montenegro. The municipality of Gusinje is located near the border with Albania, on the Vruja and Grnčara rivers, in the southwestern part of the Plav - Gusinje basin. It is at about 920 m above sea level, with the steep hillsides of Prokletije rising in the south and Lipovica, Greben and Visitor in the north. Prokletije National Park, most of which is in the municipality of Gusinje, is the youngest national park in Montenegro, and it was founded in 2009. The highest peak of Montenegro, Zla Kolata at 2,534 meters above sea level, is located in the Prokletije. It is distinguished by numerous high, sharp and jagged peaks, small watercourses, springs and drinking water sources, as well as numerous glacial lakes, the most beautiful of which is Lake Hrid.

Zero Waste Cities are municipalities that are replacing the linear waste management system with a circular one. At the moment, 400 cities in Europe are involved in this program. Zero Waste Cities is a program developed by the organization Zero Waste Europe¹, of which Zero Waste Montenegro² is a full member. The purpose of this project is that the municipality of Gusinje becomes the first zero waste municipality in Montenegro, by introducing the Zero Waste Cities program.

The research conducted in the municipality of Gusinje consisted of two components:

- Household waste research in the municipality of Gusinje; and
- Companies waste research

The first research was conducted on a sample of 286 households, while the second part of the research included 14 companies registered in the municipality of Gusinje.

¹For more information about Zero Waste Cities program visit <https://zerowastecities.eu>

²For more information about Zero Waste Cities in Montenegro visit <https://zerowastecities.eu>

PART

**Quantitative
research -
households**

RESEARCH RESULTS

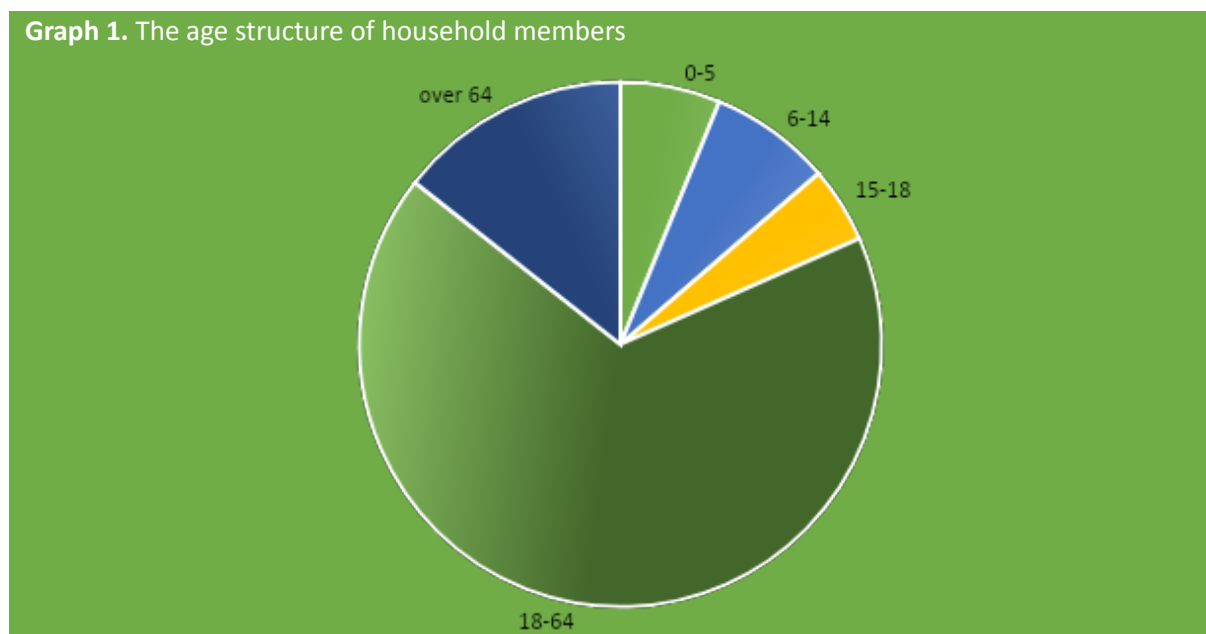
According to the last Census in 2011, Gusinje has 4027 citizens and 1168 households. On the other hand, according to the data of the Bureau of Statistics, the estimated number of citizens living on the territory of Gusinje in the middle of 2018 was 3983. The first part of the research involved a survey of 286 households.

The research provided information on the quantity and composition of waste that households produce the most, on waste selection and recycling, on preventive measures and familiarity of citizens with the zero waste principles, as well as on citizens' interest in buying and donating second-hand items to the Reuse Center.

1.1. Household information

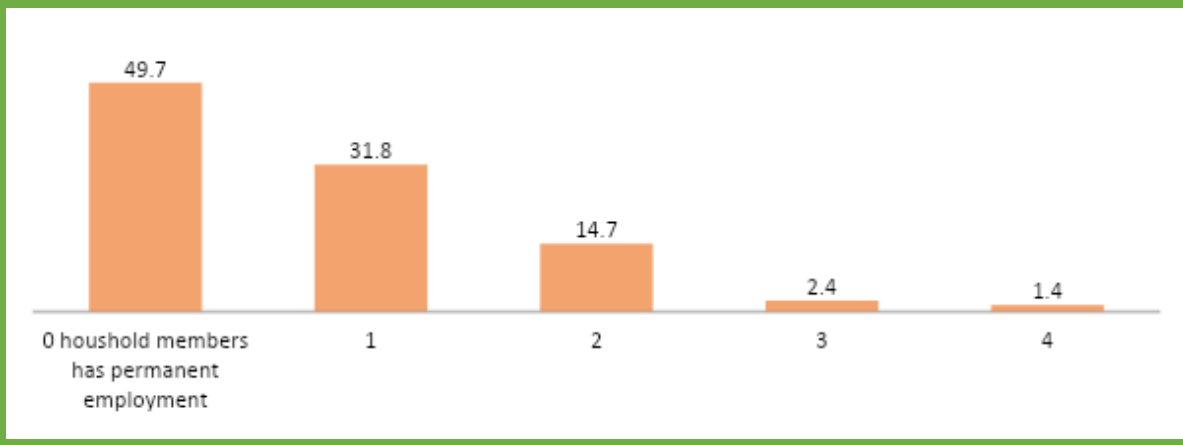
The research under the project "Montenegro and Albania towards Zero Waste" involved 286 households in the municipality of Gusinje, with a total of 1,131 members, of which 47.7% are women and 52.3% are men. Most household members (67.2%) belong to the working-age population, aged 18 to 64. 14.4% are older than 64, 6.2% are children under 5, 7.5% are children aged 6 to 14, while 4.7% are high school students (aged 15 to 18).

Graph 1. The age structure of household members



The research showed that in almost every other household (49.7%) none of the members has permanent employment, while in 31.8% of households only one member of the household is permanently employed. 26.1% of persons aged 15 to 65 are employed, while 27.9% out of the population aged 18 to 65 are employed.

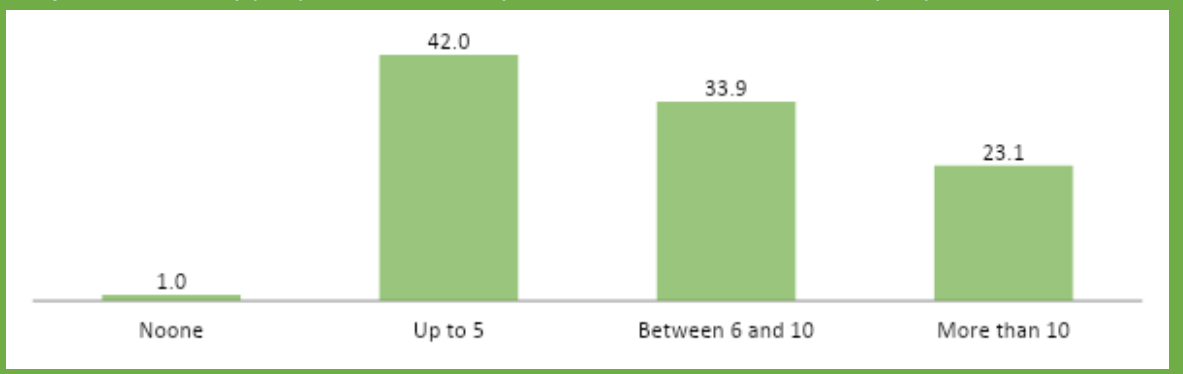
Graph 2. How many household members have permanent employment? (%)



Among the surveyed households, 81.1% own a garden or a cultivated piece of land, while 40.6% keep livestock or poultry on their property.

Slightly over 40% of respondents stated that their household receives an average of up to 5 visitors, who are not household members, per week. 1% of households are not having any visitors during the week, while 23.1% of respondents stated they have more than 10 visitors a week.

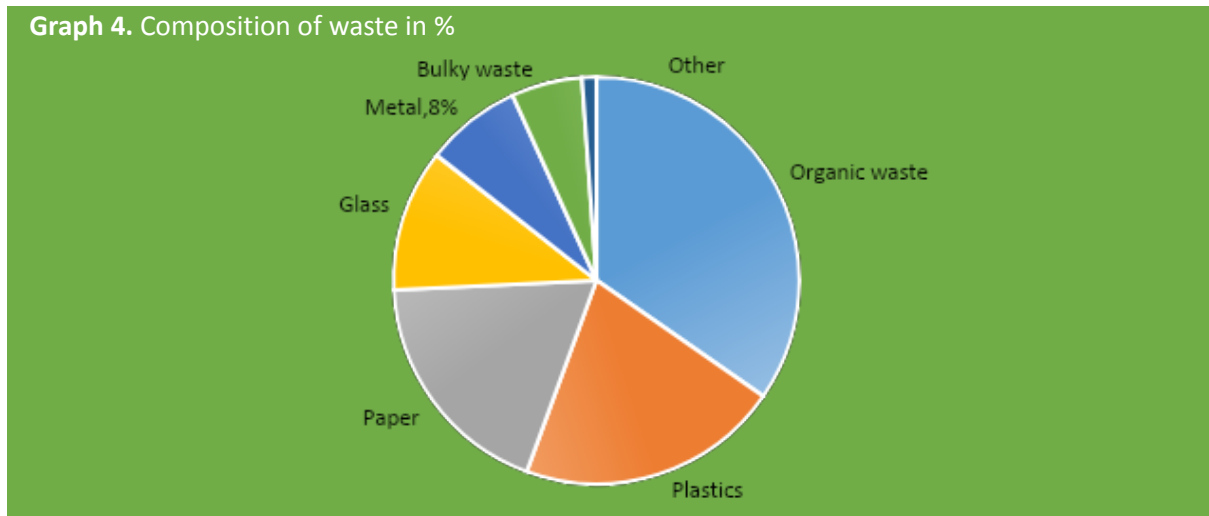
Graph 3. How many people, who are not your household members, visit you per week (%)



1.2. Quantity and composition of waste

The results show that the households included in the research produce a minimum of 1.5 kg of waste and a maximum of 50 kg of waste in one week. If we look at the total, 286 households included in the survey produce 3,966.3 kg in one week, which is an average of 13.87 kg per household, or 3.51 kg per household member. When we look at the composition of waste, organic waste is produced the most (34.6%), followed by plastic (21.0%) and paper (18.7%).

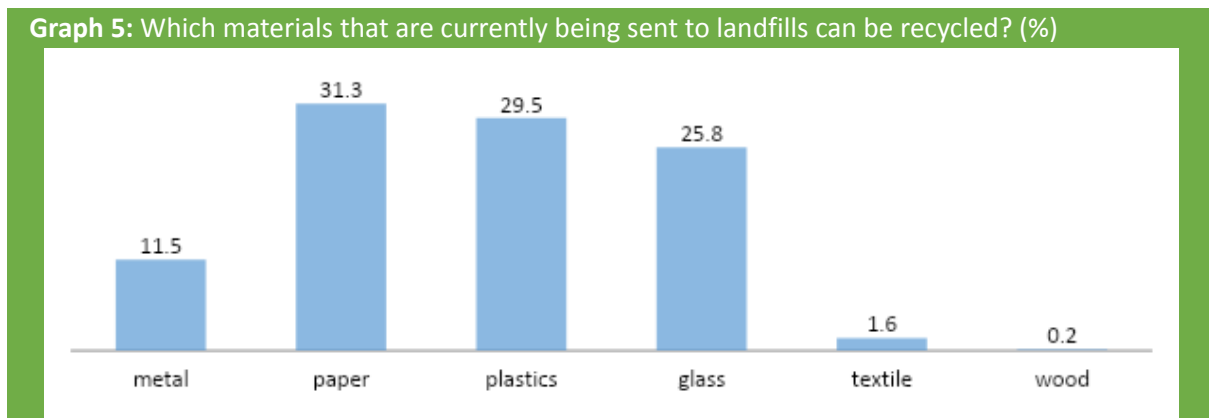
Graph 4. Composition of waste in %



1.3. Waste selection and recycling

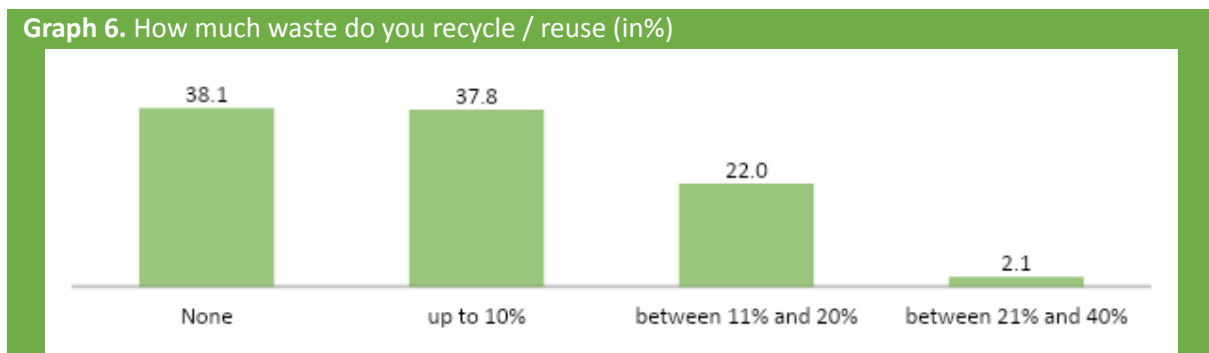
Speaking of recyclable materials, which are currently being sent to the landfill, respondents mostly mentioned paper (31.3%), plastic (29.5%) and glass (25.8%).

Graph 5: Which materials that are currently being sent to landfills can be recycled? (%)



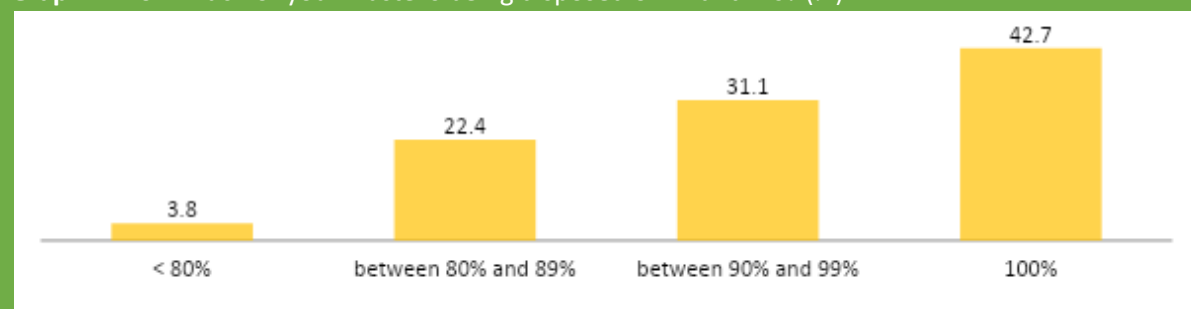
The majority of respondents (82.9%) pointed out that they would like to have 3-5 bins for waste selection in their household. However, 38.1% of respondents do not recycle their waste, while only 24.1% stated that they do recycle more than 10% of their waste.

Graph 6. How much waste do you recycle / reuse (in%)



When it comes to composting, 86.7% of respondents do not compost their food waste/grass clippings/branches at the moment. On the other hand, respondents answered that they dispose of more than 80% of their waste in landfills, while as many as 42.7% of respondents dispose of 100% of their waste in landfills.

Graph 7. How much of your waste is being disposed of in landfills? (%)



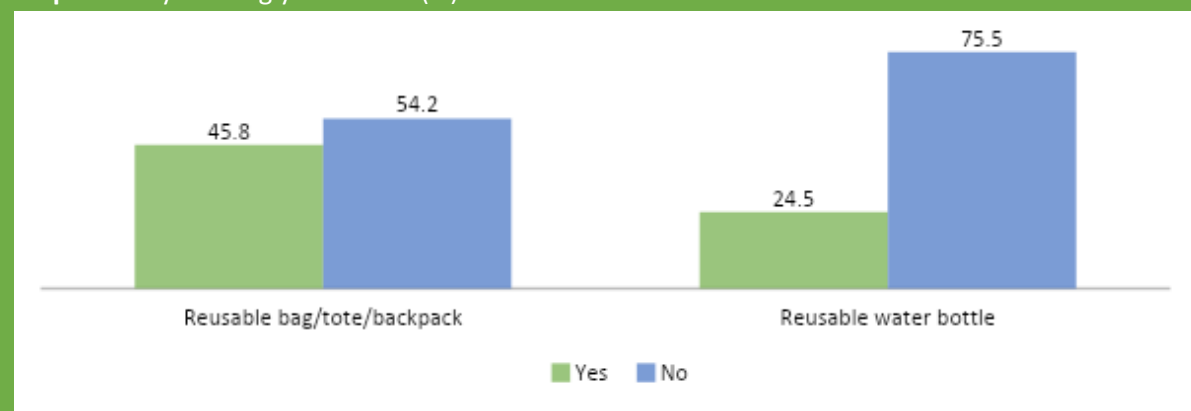
Out of the total number, only two respondents said that they would not like Gusinje to have a recycling centre, where bulky and hazardous waste can be disposed of and recycled, while as many as 98.6% believe that recycling and waste reduction are important goals a community should strive for.

1.4. Waste prevention

Only 22.7% of respondents are familiar with the Zero Waste principles. However, even 97.9% of respondents believe that the municipality should educate its citizens more about recycling and waste prevention. Extensive 98.6% of respondents said they would support local government in their decision to become a Zero Waste municipality.

The majority of respondents (82.9%) believe that there is too much unnecessary packaging and other waste. Questioned if they would contribute to the process of their city becoming a zero waste municipality, by using their own packaging when buying food in bulk (rice, pasta, vegetables and fruits, seeds, etc.), instead of buying pre-packaged items, 76.6% responded positively.

Graph 8. Do you bring your own... (%)



When they go shopping, less than half of the respondents (45.8%) bring a reusable bag, tote or a backpack, while every fourth respondent is using a reusable water bottle.

Although almost all respondents would support the local government in its decision to become a Zero Waste municipality, only 35.0% responded that they would like to participate in the “Zero Waste Household of the Year” competition.

1.5. Repair and reuse

The analysis of the results showed that every second respondent (50.7%) is interested in buying second-hand items such as furniture, electronics, wardrobe, etc, previously donated and repaired at the local Reuse Center. However, as many as 96.5% of respondents said they would donate to the Center for Reuse old items they no longer need.

· PART

**Quantitative
research -
companies**

RESEARCH RESULTS

The second part of the research involved a survey of 14 companies operating in the municipality of Gusinje. According to the data from the Central Register of Business Entities (CRBE), at the end of 2018, there were 61 registered business entities (35 companies and 26 entrepreneurs) in Gusinje, which employ 173 persons in total. Companies include limited liability companies, institutions, partnerships and cooperatives based in Gusinje. In the structure of business entities, the most numerous activities are accommodation and food and wholesale and retail services, which also employ the most people.

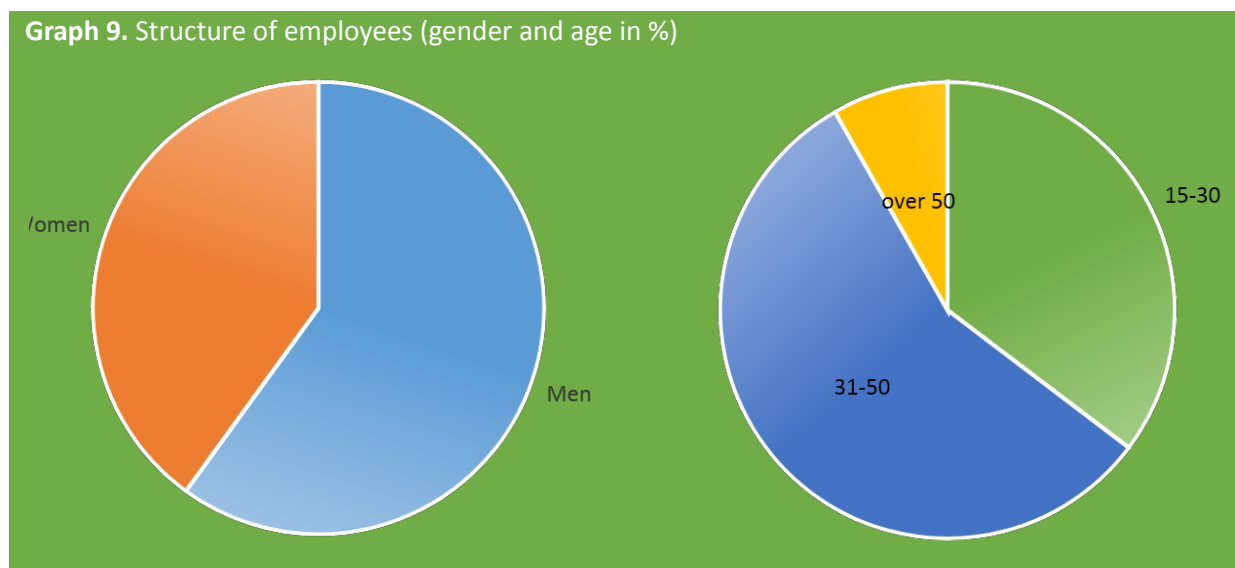
The research provided information on the quantity and composition of waste produced by these companies, their knowledge on waste selection and recycling, waste prevention measures they undertake, and their willingness to buy used items, previously donated and repaired, as well as their interest in donating items they no longer need to the local Reuse Center.

2.1. Information about company

The research involved 14 companies, of which 13 were registered as LLCs and one as an entrepreneur. If we determine the size of the company by the number of employees, there were 12 micro and two small companies interviewed, which employ 85 people in total. All companies were founded within the period from 1985 to 2018. Six of the companies were founded in 2000, six companies from 2001 to 2015, and two companies were newly founded, ie. registered in 2017 and 2018. The predominant activities of the companies involved in this survey are as follows: 6 companies are doing catering, 5 doing trade, 2 companies doing with both trade and catering, and 1 company with the predominant activity of gambling.

Of the total number of persons employed (85 persons), 40% are women and 60% men, while among the employees there are no displaced persons or persons with disabilities. Furthermore, 56.5% of employees are aged 31 to 50, 35.3% are aged below 30, and 8.2% are above 50. 70.6% of the total number of employees is having permanent employment.

Graph 9. Structure of employees (gender and age in %)



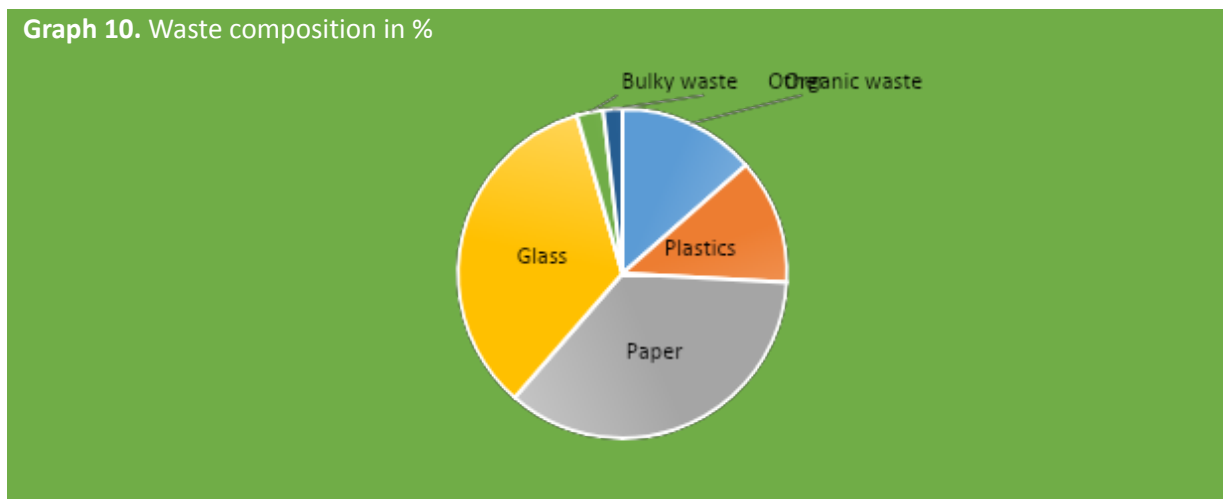
Among the surveyed companies, 50% own a garden or a cultivated piece of land, while only one company owns livestock or poultry.

The analysis of the results showed that a minimum of 50 and a maximum of 700 people on average visit these companies. Three companies stated that they receive 50 to 100 visitors per week, 6 companies stated that they have 200 to 300 visitors per week, and 5 companies stated that they have 400 to 700 visitors per week.

2.2. Quantity and composition of waste

The results show that the companies involved in the research produce a minimum of 10 kg and a maximum of 700 kg of waste in one week. If we look at the total, 14 companies involved in the survey produce 1.870 kg of waste in one week, which is an average of 133,53kg per company, or 22 kg per employee. When we look at the composition of waste, the most consumed is paper (35.5%), followed by glass (34.1%) and organic waste (13.5%).

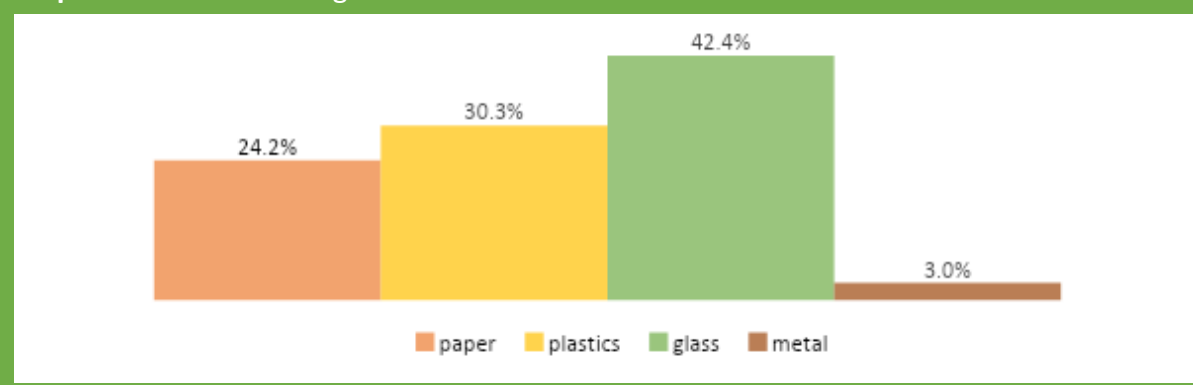
Graph 10. Waste composition in %



2.3. Waste selection and recycling

The companies involved in the research stated that they mostly send glass (42.4%), plastic (30.3%) and paper (24.2%) to the landfill.

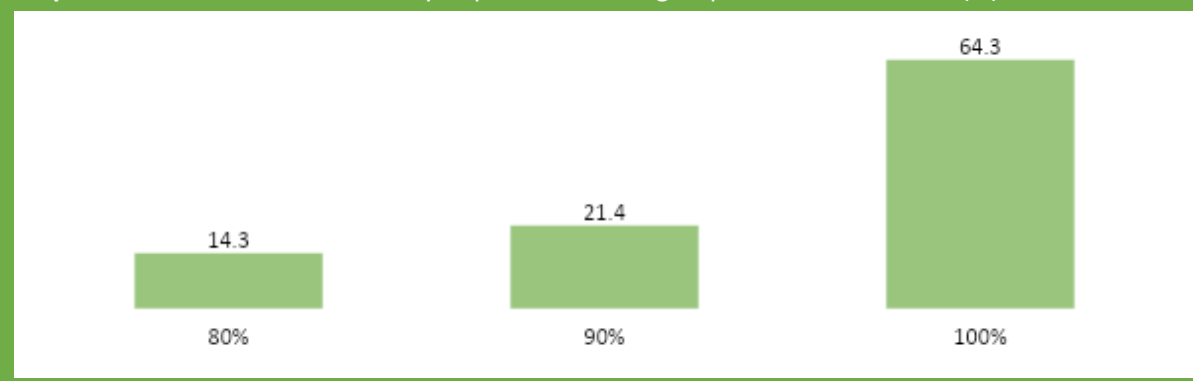
Graph 11. Materials being sent to landfills



Nine of the fourteen companies involved pointed out that they would like to have 3-5 bins for waste selection in their premises. However, as many as 6 companies do not recycle their waste at all, while 3 companies recycle only 1% or 2% of their waste. Four companies stated that they recycle 10% of their waste and one company 20%. Only one company is composting their food waste, grass clippings and branches.

Nine out of fourteen companies stated that they dispose of 100% of their waste in landfills.

Graph 12. How much of the waste you produce is being disposed of in landfills? (%)



All surveyed companies confirmed that they would like Gusinje to have a recycling centre where they could dispose of the bulky and hazardous waste, and stated they believe that recycling and waste reduction are important goals that a community should strive for.

2.4. Waste prevention

On the topic of education, all surveyed companies have said that the municipality should provide more education on recycling and waste prevention. Eleven companies agree that there is currently too much unnecessary packaging and other types of waste.

50% of the surveyed companies are familiar with the Zero Waste principles, and all of them would support the local self-government in their decision to become a Zero Waste municipality. 6 out of 14 surveyed companies would participate in the "Zero Waste Business of the Year" competition.

2.5. Repair and reuse

When it comes to buying previously donated and repaired second-hand items, such as furniture, electronics, etc. 57.1% of companies said they were interested, while 92.9% of the companies said they are willing to donate items they no longer need, to the Reuse Center.

CONCLUSIONS

Based on the research conducted among households and companies and the analysis of the results obtained, the following conclusions were made:

Every other company owns a garden or a cultivated piece of land, while only one company owns livestock or poultry. On the other hand, more than 80% of households own a garden or a cultivated piece of land, while more than 40% own livestock or poultry.

Most households receive an average of up to 10 visitors during the week, while the companies receive a significantly higher number of around 50 to 700 visitors per week.

Concerning the quantity of waste, households produce an average of 13.87 kg per week, while companies produce significantly more, an average of 133.53 kg per company. The composition of waste produced is mostly paper, glass, plastic and organic waste.

Both households and businesses send mostly glass, plastic and paper to the landfill.

At the moment, recycling is not a common practice among households and companies. However, most of the respondents would like to have up to 5 bins for waste selection.

When it comes to composting, only one company and 13.3% of households compost food waste, grass clippings and branches.

All companies and households involved in the survey stated that they dispose of 80% or more of the waste produced in landfills, while, on the other hand, 42.7% of households and 64.3% of companies dispose of 100% of their waste in landfills.

Almost all respondents confirmed that they would like Gusinje to have a recycling centre where they could dispose of the bulky and hazardous waste to be recycled by the municipality, and stated they believe that recycling and waste reduction are important goals that a community should strive for.

Both companies and households agreed that the municipality should provide more education on recycling and the importance of waste prevention.

The majority of households (82.9%) and companies (78.6%) believe that there is currently too much unnecessary packaging and other waste.

Companies are more familiar with the zero waste principles (50,5%) than the households (22,7%). At the same time, 98,6% of households and all companies would support the local self-government in their decision to become a zero-waste municipality.

To the question, if they would contribute to the process of their city becoming a zero waste municipality, by using their own packaging when buying food in bulk, instead of buying pre-packaged items, 76.6% of households responded positively. However, when they go

shopping, less than half of the respondents (45.8%) bring a reusable bag, tote or a backpack, while every fourth respondent is using a reusable water bottle.

Only 35% of households and 42.9% of companies, would apply for the "Zero Waste Household of the Year" and "Zero Waste Business of the Year" competitions.

When it comes to buying previously donated and repaired second-hand items at the local Reuse Center, such as furniture, electronics, wardrobe, etc., 57.1% of companies and 50.7% of households showed interest.

On the other hand, a substantial 96.5% of households and 92.9% of companies pointed out that they would donate old things they no longer need to the Reuse Center.

ANNEX

Document 1. Questionnaire for households

Information about household

1. How many members does your household have?

Gender / Age	0-5 years old	6-14	15-18	18-64	Over 65	Persons with disabilities
Men						
Women						

2. How many household members have permanent employment?

3. Do you own a garden or a cultivated piece of land?
1) YES 2) NO

4. Does your household own livestock or poultry?
1) YES 2) NO

5. How many visitors, which are not household members, does your household receive per week? (average)

Quantity and composition of waste

6. How much waste in kilograms do you estimate produce in one week?

7. Can you make estimations on the composition of your waste, in percentage?

Waste type	Quantity (%)
organic waste	
plastics	
paper	
glass	
metal	

bulky waste	
other, specify _____	

Waste selection and recycling

8. In your opinion, which materials that are currently being sent to landfills, can be recycled?

9. Would you like to have 3-5 different bins for waste selection in your household?

1) YES 2) NO

10. How much waste do you recycle/reuse? (in percent)

11. Do you compost your food waste/grass clippings/branches?

1) YES 2) NO

12. How much of the waste you produce is being disposed of in landfills? (in percent)

13. Would you like Gusinje to have a recycling centre, where you could dispose of the bulky and hazardous waste, which would be recycled by the municipality?

1) YES 2) NO

14. Do you believe that recycling and waste reduction are important goals that a community should strive for?

1) YES 2) NO

Waste prevention

15. Do you think that the municipality should provide more education to its citizens about recycling and waste prevention?

1) YES 2) NO

16. Are you familiar with zero waste principles?

1) YES 2) NO

17. Would you support the local self-government in its decision to become a zero waste municipality?

1) YES 2) NO

18. Do you think that too much unnecessary packaging and other types of waste is currently being used?

1) YES 2) NO

19. Would you participate in the process of the city becoming a zero waste municipality by carrying your packaging when buying bulk foods (rice, pasta, vegetables and fruits, seeds, etc.), instead of buying pre-packaged foods?

1) YES 2) NO

- 20. Do you have a reusable bag/backpack with you when you go shopping?
1) YES 2) NO
- 21. Do you use a reusable water bottle?
1) YES 2) NO
- 22. Would you like to participate in the "Zero Waste Household of the Year" competition?
1) YES 2) NO

Repair and reuse

- 23. Would you be interested in buying second-hand items, such as furniture, electronics, wardrobes, previously donated and repaired at the local Reuse Center?
1) YES 2) NO
- 24. Would you donate old items you no longer need to the Reuse Center?
1) YES 2) NO

Document 2. Company Questionnaire

Information about the company:

Year of establishment:	
The number of employees:	
Type of organization:	
Primary activity:	

- 1. How many persons are employed in your company?

Gender / Age	15-30	31-50	Over 50	Persons with disability	Refugees
Men					
Women					

- 2. How many employees have permanent employment?

- 3. Does your company own a garden / cultivated piece of land?

1) YES 2) NO

- 4. Does your company own livestock or poultry?

1) YES 2) NO

- 5. How many people, not including employees, visit your business a week? (average)

Quantity and composition of waste

- 6. How much waste in kilograms do you estimate produce in one week?

7. Could you estimate the composition of your waste in percentages?

Waste type	Quantity (%)
organic waste	
plastics	
paper	
glass	
metal	
bulky waste	
other, specify	

Waste selection and recycling

8. In your opinion, which materials that are currently being sent to landfills, can be recycled?

9. Would you like to have 3-5 different bins for waste selection in your company?

1) YES 2) NO

10. How much waste do you recycle/reuse? (in percent)

11. Do you compost your food waste/grass clippings/branches?

1) YES 2) NO

12. How much of your waste is disposed of in the landfill? (in percent)

13. Would you like Gusinje to have a recycling centre, where you could dispose of the bulky and hazardous waste, which would be recycled by the municipality?

1) YES 2) NO

14. Do you believe that recycling and reducing waste is an important goal that one community should strive for?

1) YES 2) NO

Waste prevention

15. Do you think that the municipality should provide more education to companies about recycling and waste prevention?

1) YES 2) NO

16. Are you familiar with zero waste principles?

1) YES 2) NO

17. Would you support the local self-government in its decision to become a zero waste municipality?

1) YES 2) NO

18. Do you think that too much unnecessary packaging and other types of waste is currently used?

1) YES 2) NO

19. Would you like to participate in the "Zero Waste Business of the Year" competition?

1) YES 2) NO

Repair and reuse

20. Would you be interested in buying second-hand items, such as furniture, electronics, wardrobes, previously donated and repaired at the local Reuse Center?

1) YES 2) NO

21. Would you donate old items you no longer need to the Reuse Center?

1) YES 2) NO