



The Department of International Environment and Development Studies, Noragric, is the international gateway for the Norwegian University of Life Sciences (NMBU). The university comprises of eight departments, associated research institutions and the Norwegian College of Veterinary Medicine in Oslo. Established in 1986, Noragric's contribution to international development lies in the interface between research, education (Bachelor, Master and PhD programs) and assignments.

The Noragric Master theses are the final theses submitted by students in order to fulfill the requirements under the Noragric Master program "International Environmental Studies", "Development Studies" and other Master programs.

The findings in this thesis do not necessarily reflect the views of Noragric. Extracts from this publication may only be reproduced after prior consultation with the author and on condition that the source is indicated. For rights of reproduction or translation contact Noragric.

© Ardena Gojani, December 2015
ardenag88@gmail.com

Noragric
Department of International Environment and Development Studies
P.O. Box 5003
N-1432 Ås
Norway
Tel.: +47 64 96 52 00
Fax: +47 64 96 52 01
Internet: <http://www.nmbu.no/noragric>

STUDENT'S DECLARATION

I, Ardena Gojani, declare that this thesis is a result of my own research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Signed: _____

Ardena Gojani

Date: _____

Abstract

In the last decade, solid waste management has been one of the most problematic and demanding issues addressed in both local, national and international efforts. With a growth in population and income waste production is predicted to continually increase. Due to improper solid waste management practices, there have been negative effects on the health of citizens in Kosovo through outbreaks of diseases and visible changes in the surroundings. This study made use of semi-structured interviews, individual interviews and focus group discussions to collect the primary data. Recent literature on solid waste management and environmental studies have been employed in the interpretation of the data. It recommends that there is an evident need for the city of Gjakova to empower solid waste facilities through law by prescribing fines and granting incentives. The study suggests that further studies pursuing the field of solid waste management may particularly focus on the subject of the effectiveness of private corporations versus state-controlled efforts for solid waste management.

Keywords: Solid Waste Management, Recycling, Çabрати, Kosovo, Gjakova,

Acknowledgements

First and foremost, I would like to dedicate this paper to my parents for the sacrifices they have endured to guide me towards receiving the best education possible. Thank you for being proud of me, believing in me to be the first generation to complete a higher education in our family. Without you I would not be where I am today.

I would like sincerely thank my supervisor Darley Kjosavik for the help, positive attitude and patience throughout my thesis. Her encouragement and trust in me really pushed me towards completing the thesis. Additionally, I would like to thank my local supervisor in Kosovo, Zeqir Veselaj (PhD of Ecology; University of Prishtina) for the contacts he organized prior to my field work in Kosovo and for all the suggestions, documents and comments he provided to better my thesis. He believed in me and the importance of this study from the moment I contacted him.

Most of all, thank you to my sweet husband for his remarkable patience and unwavering love and support over the course of my research while eight months pregnant, and later during the final months of writing for the countless days of daddy daycare to our beautiful 1 year old daughter, Lenea.

Table of Contents

STUDENT'S DECLARATION	2
Abstract.....	3
Acknowledgements.....	4
List of Abbreviations	7
List of Tables and Figures	8
1 Introduction	9
1.1 Background.....	9
1.2 Research Objectives & Thesis Statement.....	11
1.3 General Objective.....	12
1.4 Specific Objectives	12
1.5 Research Questions.....	13
1.6 Motivation of Study	13
2 Area of Study	16
2.1 Kosovo	16
2.2 Gjakova City	18
3 Literature Review and Theoretical Framework	20
3.1 Key Concepts and Terminologies	20
3.2 Waste.....	20
3.3 Solid Waste Management.....	21
3.4 Public Attitudes	22
3.5 Public Participation	23
3.6 Review of Related Literature	23
3.7 Theoretical Framework.....	25
4 Methodology.....	28
4.1 A combination of quantitative and qualitative approach	28
4.2 Research Methodology.....	28
4.3 Research Design	28
4.4 Sample Size	29
4.5 Sample Procedure.....	29
4.7 Document Review	30
4.8 Data Processing and Analysis	31
5 Empirical Findings	32
5.1 Socio-economic/demographic characteristics of respondents.....	32
5.2 Citizen's views and observations of Solid Waste Management	35
5.2.1 Primary waste management	36
5.2.2 Citizens' opinions on the Company, Çabрати	40
5.2.3 Witnessing waste outside their home	41
5.2.4 Witnessing waste lying around in the streets and rivers	41
5.2.5 Respect for waste disposal laws	42
5.3 Behavioral tendencies and needed improvements.....	43
5.3.1 Significance of waste sort to the respondents.....	43
5.4 Challenges of public participation in solid waste management	44
5.4.1 Respondents suggestions towards the Municipality	44

5.4.2	Reducing and Reusing waste.....	45
5.4.3	Concerns on whether or not the final disposal is environmentally safe and acceptable 45	
5.5	Prospects of public participation in Solid Waste Management.....	46
5.5.1	Raising Awareness towards Solid Waste Management.....	46
5.6	Responses to individual semi-structured interviews	47
5.6.1	The Chief Chair of Environment (Fatos Deda).....	47
5.6.2	Çabrati Head of the Waste Management Department (Abdullah Babalija)	48
5.6.3	Chief of Solid Waste Monitoring of Kosovo.....	55
5.7	Focus Group Discussion with citizens of the Village of Bec.....	55
5.8	Behavioral tendencies towards SWM in relation to gender, education level & income 58	
6	Analysis	62
6.1	Public participation	62
6.2	The challenges of public participation	63
6.2.1	Poverty/Limited resources.....	63
6.2.2	Lack of education	65
6.3	Strategies of future public participation.....	65
6.3.1	Formal disposal facilities and the need of inspectors and enforcement actions.....	65
6.4	Limitations	66
7	Conclusion and Recommendations	67
7.1	Conclusion.....	67
7.2	Recommendations.....	67
	Bibliography	68
	Appendices	72
	Appendix 1:.....	72
	Appendix 2:.....	75

List of Abbreviations

EU	European union
FCA	Full Cost Accounting
KEPA	Kosovo Environment Protection Agency
OECD	Organization for Economic Co-operation and Development
UNEP	United Nations Environment Programme
EIAs	Intermediate Enforcement Actions

List of Tables and Figures

TABLES

Table 5.1 The number of respondents based on gender and living in city vs. village.

FIGURES

Figure 2.1 Picture of the surrounding countries of Kosovo. (adapted from USAID/Kosovo Country Development Cooperation Strategy 2014-2018).

Figure 2.2 Surrounding villages of Gjakova. (adapted from Google maps, 2015)

Figure 3.1 Solid Waste Management Hierarchy. Source:
www.havant.gov.uk/images/wastetriangle

Figure 5.1 Age of Respondents.

Figure 5.2 Education Level of Respondents.

Figure 5.3 Monthly Incomes of Respondents.

Figure 5.4 Marital Statuses of the Respondents.

Figure 5.5 Waste disposal location.

Figure 5.6 Bags of waste thrown per week

Figure 5.7 Percentage of Organic Waste

Figure 5.8 Waste collection per week.

Figure 5.9 Opinions where waste is disposed by Çabрати.

Figure 5.10 Opinion of satisfaction towards Çabрати

Figure 5.11 List of importance for recycling.

Figure 5.12 Response if recycling bins were provided by the Municipality.

Figure 5.13 Raising awareness towards Solid Waste Management.

Figure 5.14 Çabрати workers collecting waste outside the bins

Figure 5.15 Waste outside the bin

Figure 5.16 Industrial waste in the Ereniku River

Figure 5.17 Plastic bags and plastic bottles laying beside Ereniku River

Figure 5.18 Reciklimi TG's collection of plastic before pressing

Figure 5.19 Reciklimi TG collection of cardboards before shipping

Figure 5.20 Waste Disposal amount in bags based on education level.

Figure 5.21 Income in relation to education level.

Figure 5.22 The amount of bags discarded in relation to income.

Figure 5.23 The amount of household members and bags of waste discarded per week

Figure 5.24 Behavior towards waste when seen on the street in relation to education level

1 Introduction

1.1 Background

Humans have generated garbage from man's earliest time. Throughout history trash has been dealt with through dumping, burning, recycling and minimization. The collecting, treating and disposing of solid waste came into human history soon after the onset of industrialization and population growth of urban areas. Today improper solid-waste management can cause negative effects on our health through outbreaks of diseases and our environment through pollutants. However, Karibo (2008) stated that the word "waste" is a subjective term because some see waste as a public health and environment risk and others see it as a necessary inconvenience that is a source of income.

Solid-waste management is an economic development tool and an environment tool that can help any growing society. Waste can be resource that can contribute to local revenue, job creation, and business expansion. Additionally, the extracting and treating of materials can help manufacture new products hence help save energy. The recycling plants and landfill sites can also help create jobs for jobless youth, which is a very important factor for developing countries, like Kosovo.

Kosovo declared independence as a sovereign state in 2008, becoming one of the youngest, yet, poorest nation in Europe. Despite oppression and exile for many years, the population in Kosovo increased rapidly (State of Environment in Kosovo 2008-2012, 2011). Like any developing country, Kosovo strives to catch up economically to join the First World. Thus, while population and wealth increases, more waste is generated. Until 2005, 50% of Kosovo's GDP relied heavily on foreign remittance for post-war development and waste management (Kosovo Environment and Climate Analysis, 2008). Since foreign remittances have recently decreased at the same time as the waste generation has increased, the waste management issues in Kosovo have escalated.

Kosovo lacks proper waste management for all types of solid waste: domestic, industrial, health care, and hazardous. The collection of waste is very low, averaging coverage of roughly 41% of population (KEAP, 2009). The collection of municipal waste averages 218,000 tons a year, with illegal dumping averaging 200,000 tons a year. It is assumed that the 40% of uncollected waste

is burned and 60% illegally dumped (Country Environmental Analysis, p.44). In addition to already low waste collection, Kosovo also misses the classification, recycling and treatment of waste.

In 2007, for the first time in history and as a new country, Kosovo adopted the responsibility to protect the environment and developed the Environmental Protection Agency. An estimated €50 million is needed to develop a basic sanitarly sound collection for household waste, and adding recycling would double the cost (Fetah et al., 2009). With relatively new governing institutions, Kosovo lacks the financial means to implement and monitor environmental legislation. Additionally, the challenges that Kosovo is facing also include; low economic development, lack of environmental education and infrastructure.

The present primary and secondary education system in Kosovo does not include environmental studies as mandatory subjects into their curriculum. (Hyseni Spahiu, 2014). In higher education, textbooks used include little and outdated information about the environment (Hyseni, 2008). It is, however, still unknown to what extent environmental issues are included in the teaching of the higher education. However, the study of Lindemann-Matthies & Hyseni (2009) concluded that some local and global environment issues are provided in the higher education, however citizens felt powerless when asked what they could do to protect the environment.

Education factor aside, Kosovo lacks the necessary funds to implement recycling. Although in 2007, for the first time in history and as a new country, Kosovo adopted the responsibility to protect the environment and developed the Environmental Protection Agency. However, it is estimated that €50 million is needed to develop a basic sanitarly sound collection for household waste, and adding recycling would double the cost (Fetah et al., 2009). With relatively new governing institutions, Kosovo lacks the financial means to implement and monitor environmental legislation.

Barring financial issues, energy and water availability are two of the greatest limiting factors. Kosovo depends on lignite for electricity production. Of the two coal power plants, only one is functional but it is unstable with frequent blackouts (Kosovo Environment and Climate Analysis, 2008). The other prerequisite for recycling, water, is an extremely scarce resource in Kosovo and the government is only now in the midst of constructing irrigation systems. As it is, the main

watercourses are often contaminated with organic waste and no wastewater treatment plants are available (Hyseni Spahiu, 2014).

It is important to understand that with the existing low government funds, education and inadequate basic infrastructure; Kosovo is ill-prepared for adopting large-scale recycling. Therefore, Kosovo at this time, reducing waste and reusing items are the next best options Kosovars can look to. While recycling is the reprocessing of an item into a new material for use in a new product, reducing and reusing are simple methods to lessen waste produced and lengthening the usable life of an item, respectively. Kosovars can focus on purchasing fewer goods and rely more strongly on borrowing, renting and exchanging goods they may only use a few times. Furthermore, they can maintain goods through repairing, and finding new ways to reuse the same items. Reuse will keep goods out of waste streams and in turn, reduce the amount of fuel, forests and water supplies used to generate goods or process waste. Lastly, through reuse, more business and employment opportunities will be available for the large proportion of unemployed Kosovars.

Therefore, in order for Kosovo to adopt large-scale recycling in the future, we must first examine the underlying challenges within the solid waste management system between the citizens and municipality. If the attitudes of the government and public are similar towards the solid waste management in Kosovo, the chances of large-scale recycling implementation in the future are much greater.

1.2 Research Objectives & Thesis Statement

Kosovo, one of the youngest nations in Europe, lacks a proper and sustainable infrastructure for solid waste management. Although 90% of the urban populations have their garbage collected, the system is not properly managed due to lack of equipment and disposal facilities. More than 40% of the population does not pay the fee for waste collection. Furthermore, waste classification is in initial stages and only a few small recycling stations are present but remaining stagnant. The inadequate solid waste management system in Kosovo is due to low government funds and investments in recycling and the lack citizens' knowledge towards the environment.

This has led the citizens to dispose waste all around Kosovo including roads, rivers, play grounds, parks and hospitals. The citizens of Kosovo do not realize the negative effect this has on the environment and their own health. Adopting a proper solid waste system, Kosovo will benefit socially, economical and environmentally; providing more jobs from materials recovered, improve health which will lift the country out of extreme poverty and reduce the amount of waste in landfills and help save the environment, water, and other natural resources (Kabashi-Hima, 2011).

Research within the environmental sector is a major setback for Kosovo, therefore collecting data will provide significant information for improvement. In order to understand the complexities within the solid waste system, an evaluation through mix-methods designed study will help elucidate the efficiency of an adequate solid waste system in Kosovo. To understand the phenomenon from the point of view of the participants, face-to-face interviews were conducted to better understand the different attitudes towards the solid waste system (*what they think, how they feel and their behavioral tendencies*). To strengthen the research, behavioral tendencies were measured through a questionnaire that gives statistical analysis evaluating the correlation of different parameters based on income, education level, and gender.

1.3 General Objective

The main objective of this study is to explore the citizens' attitudes and participation in solid waste management in Gjakova for improvements in the future. Through the study, we will learn in detail about their attitudes (*what they think, how they feel and what they do: think-feel-do*) to help guide the city in a better solid waste management system.

1.4 Specific Objectives

1. Establish the citizens' views and observations of the solid waste managements system in Gjakova city.

2. Establish the citizens' feelings towards the solid waste management system and the approaches towards improvements in the future.
3. Establish their behavioral tendencies and what could the local authorities improve in order to make the citizens more likely to act.
4. Examine if income, education level, gender or age have an impact on the citizens of Gjakova towards better practices towards solid waste management.

1.5 Research Questions

1. How do citizens participate in solid waste management in Kosovo?
2. What role do citizens play in solid waste management in Kosovo?
3. What are the challenges and limiting factors that is keeping the public from participating in solid waste management?
4. Does income, level of education, gender or age affect behavioral tendencies towards solid waste management?

1.6 Motivation of Study

At 11 years old, during the ethnic cleansing in Kosovo in 1999, my family and I had five minutes to leave our home at gunpoint or we would be killed. After losing our possessions, our home, our community, and our native land, we were granted refugee status and immigrated to the United States of America. There, in the United States, I was thrust into an unfamiliar world where my family and I could not speak the language and we encountered daily challenges to create new lives in a foreign culture. These experiences had a profound impact on my worldview and shaped the person I have become. Rather than engendering sorrow or anger, however, I found resilience and a passion to work towards making the world a better place.

Moving to Norway and emerging into adulthood, I continued pursuing community development opportunities, but more closely focusing on environment and sustainable development. For example, in recent years I have traveled Costa Rica, the Republic of Georgia, Tanzania and Kosovo working with projects focusing on topics such as: hunger, poverty, soil depletion, CO2 emissions, deforestation and solid waste management. While each experience was different they have further confirmed my personal commitment and desire to enact meaningful positive change to protect our environment through sustainable development, but more specifically for the motherland, Kosovo.

After spending many summers in Kosovo after the war in 1999, it is clear to see that development of the country is a desirable goal. However, as a developing country, the people and government of Kosovo feel a sense of urgency to catch up with the developed world and are looking for “quick fixes” versus “sustainable” development. It is important to learn from the missteps of the past before pressing forward to an uncertain future. For example, the indiscriminate burning of fossil fuels principally drove the quick advances during Industrial Revolution, and we are only now beginning to understand the profound yet unforeseen environmental consequences for our global ecosystem.

Therefore as a launching point, Kosovo must begin with baby steps and establish a more efficient waste management system. Therefore, for my master thesis, I returned to Gjakova city to gather data to understand citizen perceptions and attitudes towards solid waste management. As I interpret the data, I see that the citizens are hopeful and ready for change. While many do not understand the consequence that waste has on our environment, they do understand that it affects our health in a negative way. Citizens also believe that separating the waste is easier than putting all waste in one container. Therefore, Kosovars will easily adapt recycling when it becomes available and the country has an operating system in utilizing the waste.

Furthermore, I believe that solid waste management is an economic development tool and an environment tool that can help the society grow. Waste can be resource that can contribute to local revenue, job creation, and business expansion. Additionally, the extracting and treating of materials can help manufacture new products hence help save energy. The recycling plants and landfill sites can also help create jobs for jobless youth. However, efforts must be made to make

all development projects as sustainable and environmentally friendly as possible.

2 Area of Study

2.1 Kosovo



Figure 2.1 Picture of the surrounding countries of Kosovo. (adapted from USAID/Kosovo Country Development Cooperation Strategy 2014-2018).

The Republic of Kosovo is the newest country in Europe declaring independence on February 17th, 2008. Kosovo is located in the South Eastern part of Europe where it is landlocked by Albania, Montenegro, Serbia and Macedonia (Figure 1). Kosovo posses many mineral resources, primarily coal, lead, zinc, chromium and silver, however it is facing major environmental related issues. Some of its major challenges are water pollution, lead contamination, degradation of forests/land and untreated municipal and hazardous waste (USAID/Kosovo Country Development Cooperation Strategy 2014-2018).

The country is unique in that half of its population of around 2 million is under the age of 25. It is estimated that 45% of the population lives under the poverty line with 17% living in extreme poverty. Unemployment is exceedingly high with approximately 45% unemployed where women are more affected by unemployment than men (Hyseni, 2013).

Kosovo's economy has had a steady increase of about 3-5% since in the last decade. The Kosovo Agency of Statistics has estimated a growth of 4.7% during the three-year period 2013-2015. Although this estimate is higher than any other Southeastern European countries, the pace of growth is not enough to have major effects on poverty and unemployment. Only if the economic growth rate was 12% a year for one entire decade will be able to meet its neighboring countries GDP (USAID/Kosovo Country Development Cooperation Strategy 2014-2018).

With the economy of Kosovo continually increasing it is clearly seen that the waste production has also increased. According to the Kosovo Environment Protection Agency (KEPA), the waste generation in Kosovo has also increased drastically in the last few years. In 2008, 167 kg of waste was generated per person, while in 2009 it was 193 kg/person. It then increased significantly to 297 kg/person in 2011 and then again to 335kg/person by 2011 where it has stabilized around the same amount in 2012 (The State of Waste and Chemical Report, 2014).

According to the State of Waste and Chemical Report (2014), Kosovo constructed seven regional sanitary landfills based on minimal EU standards after the war. The regional sanitary landfills are located in Prishtina, Prizeren, Mitrovica, Gjilan, Podujeva, Peja, Zvecan and Dragash. In addition, Kosovo holds three waste transfer stations located in Gjakova, Ferizaj and Drenas. The waste transfer stations are built for temporary deposition of waste where large vehicles later transport waste to the regional landfills or for recycling.

Veselaj (2011) indicates that there are 28 private companies that recycle some type of waste. Metal waste is accounted for about 72.9% of waste treated, paper 22.7%, and plastic 3.09%. The metal waste is exported abroad, primarily Macedonia and Albania. There is a great number of unrecorded companies and private persons who recycle aluminum, plastic and paper, all of which is believed to be exchanged for profit outside of Kosovo.

2.2 Gjakova City



Figure 2.2 Surrounding villages of Gjakova. (adapted from Google maps, 2015)

The study took place in Gjakova city. Gjakova is located in the western part of Kosovo between two rivers, Erënuke and Krena. Gjakova is the 3rd largest city in Kosovo covering 521 km² and with a population of 153,000. Approximately 40% of the population lives in rural areas and 60% live in the city with an average of 6.27 members per household (Local Environment Action Plan, 2009-2015).

More than 40% of the population of Gjakova is registered as unemployed in 2011. Historically, Gjakova built an economy primarily in the farming and agricultural sector, however after the Kosovo War in 1999 there were more people moving towards the public and private sectors, with an approximate 920 employees registered in the business entities 2010. As the economy of Gjakova increases with a great number of unemployed decreasing, the demand for more products

is much greater. Many hotels, restaurants, bars and houses have sprung up so quickly and sadly so has the amount of waste disposed (Local Environment Action Plan, 2009-2015).

In 2011, the municipality of Gjakova collected only 49% of population waste. The waste collection is covering 90% of in the urban areas, and only 10% in the rural areas. On average, 920 tons of waste is generated in Gjakova. Çabrati, which is the company in charge of the waste collection in Gjakova, employed 109 workers in 2008, whom are responsible for the 88 villages with a population close to 100,000. According to the citizens, in 2012, only 41% were registered for the collection of waste, while 64% of those registered did not pay the fee for the collection of waste (Zyra e Auditorit të Përgjithshem, 2012).

According to the Local Environment Action Plan (2009-2015), the transfer station landfill “Koloni” is located only 2 miles from the city and it is continually expanding in parallel with the growth of urban areas that is leading to major negative environmental and health consequences. The waste is often set on fire as it sits there for days instead of being transported within 24 hours to the regional landfill, “Landovica”.

I have personally been a resident in Gjakova during the summers (June-August) since the year 2004 and have witnessed and observed the numerous development projects which are leading to more and more waste generating year after year. By participating in this study, I hope that actions will be taken forth for improvements towards a more sustainable solid waste system

3 Literature Review and Theoretical Framework

3.1 Key Concepts and Terminologies

The following concepts and terminologies described in this section are important to better understand the study documented.

3.2 Waste

Existing literature will indicate that the precise definition of waste is vitally important yet seemingly trivial at the same time. For recycling companies, they often define waste as an “obstacle to environmental protection” (Pohjola and Pongrácz, 2004). There have been efforts to legally define waste by the Organization for Economic Co-operation and Development (OECD) or by the European Community. As a result, there are different interpretations of what waste is because states often define waste with regard to specific materials. The essence of these varying definitions of waste is simply that the owner does not want the waste; and thus waste only exists where it is not wanted (Cheyne and Purdue, 1995). This paper will adhere to the definition of waste by Pongrácz (2002), which states that “waste is a man-made thing that has no purpose; or it not able to perform with respect to its purpose”.

The attempt to identify the collective mass of waste is problematic, and consequently, the structure of the concept of waste has been fragmented into sub-categories (Pohjola and Pongrácz, 2004). Two kinds of relevant waste in the study of waste management are specifically municipal waste and solid waste. Contemporary studies of waste management do not differentiate municipal waste from solid waste. Specifically, municipal waste refers to waste that is generated in urban areas, which is commonly generated in households, excluding exploited vehicles or non-toxic waste generated elsewhere which is similar in its form and composition to household waste (Mesjasz-Lech, 2014). On the other hand, the New York State Department of Environmental Conservation defines solid waste as “any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials including solid, liquid, semi-solid, or contained gaseous material,

resulting from industrial, commercial, mining and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges”. Solid waste constitutes any material that has been discarded or abandoned, and do not necessarily have to be solid. They can be liquid, semi-solid or containerized gaseous material (NYS Department of Environmental Conservation, 2015). Solid wastes include all the discarded materials from municipalities, households and nonhazardous solids from industrial and commercial establishments (Kaseva and Gupta, 1996). It has been argued that solid waste is a misplaced resource to be tapped for the benefit of the generating society (Collins, 1998).

3.3 Solid Waste Management

Pongrácz (2002) defines waste management as “control of waste-related activities with the aim of protecting the environment and human health, and resources conservation”. In general, solid waste management is a necessary part of life, and effective management of this has been identified as essential for sustainable development. Effective solid waste management is of concern to developed countries and newly industrialized countries alike, although the former has a longer history of concern with adverse effects of solid waste management upon social and environmental factors. It has been argued that such adverse effects can be reduced by assigning them a monetary value and that the identification and measurement of these effects assists in controlling the social and environmental costs of solid waste management facilitating movement toward sustainable development. Therefore, the need to integrate social and environmental costs in the accounting management system is widely recognized in solid waste management, and Full Cost Accounting (FCA) is a well accepted approach for achieving this objective.

Several studies confirm the effectiveness of FCA, finding that it provides a common sense approach to identifying social and environmental costs. Although there is urgent need for integration of waste management into strategies for sustainable development, the degree of success with which developed countries and newly industrialized countries cope with the problem differs. Most newly industrialized countries are still in the early process of the concept of sustainable development. Therefore, practices have been slow even though there appears to be

initiative within the solid waste management industry to implement such a concept. Solid waste management is defined as: “the control of waste generation, storage, collection, transfer and transport, processing and disposal of solid wastes consistent with the best practices of public health, economic, financial, engineering, administrative, legal and environmental considerations” (Othman, 2002, p.2). Solid waste generation will continue to increase as the population and economy increases, however behavioral tendencies of people vary, and each individual will handle the disposal of their waste differently. Cointreau-Levine and Coad (2000) argues that it is the responsibility of the government to provide the services to the citizens. But one could also argue to what extent should the government go to provide the services.

Effective waste management requires that someone take responsibility for the removal and management of solid waste. It further requires appropriate levels of funding. In most countries government is responsible for the total management of solid waste, although there is a growing trend towards privatization in this area requiring citizens to pay for waste collection. In rural areas citizens may be required to bring their waste to dumps and recycling facilities (Achankeng 2004). For most industrialized nations today, solid waste management is a multibillion-dollar business which is also crucial to survival. The end goal is to reduce the quantity of waste (whether that garbage is disposed of or recycled into something useful) and to reduce the environmental pollution.

3.4 Public Attitudes

An attitude is "a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (Hogg, & Vaughan 2005). It has also been defined as a “psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly, & Chaiken, 1993). The concept of public attitude has generally been understood to be synonymous with “public opinion” or “public behavior”. However, it was originally developed to explain differences in the behavior of individuals, which was a central concern of fields such as psychology and sociology (Liska, 1975). For the purpose of this paper, “public attitude” will be defined as a general psychological tendency that is expressed by evaluating satisfaction or dissatisfaction of a particular entity. This is related to

research recalled by Fahy (2005) where environmental attitudes and behavior has largely taken place within the field of psychology. Traditional models and paradigms of research on attitudes and behavior in environmental studies was developed under the presumption that if individuals had the correct attitudes and the optimum practical facilities, then correct behavior would follow (Hobson, 2003).

3.5 Public Participation

Public participation encompasses a group of procedures designed to consult, involve, and inform the public to allow those affected by a decision to have input into that decision (Smith, 1983). Public participation is synonymous with “public involvement”. People will have different opinions on what will work best for their communities, whether citizens shall have full responsibility or the government. However, in the end the public will determine the direction it will take, and to make this easier cultivated, public participation programs must be inclusive.

Contemporary studies would indicate that the specific forms of participation in public meetings or workshops may not determine the process or outcome of success (Chess and Purcell, 1999). It is seen that not just the context of participation has an impact on a particular program’s success or failure, because other factors such as the expertise of planning and the commitment of agencies may also contribute.

3.6 Review of Related Literature

In the past few decades, legislation on waste has increased dramatically. A steady example is legislation in the European Union, where waste is responsible for a great proportion of new laws and amendments in the environmental sector (McCormick, 2001). Along with the growth of legislation for waste, there is also a growing literature on waste management. Among which are the study of influence of context in research on environmental attitudes (Fahy, 2005). It is acknowledged that there are still practical and social or institutional constraints that may prevent

people from participating in actions that are beneficial to the environment. Some factors include lack of finances, lack of time, and lack of facilities like recycling (Blake, 1999).

In relation to the increase in legislation on waste, it is equally acclaimed in the global sphere through international efforts. According to the United Nations Environment Programme (UNEP), considerable environmental progress has been made at the level of institutional developments, international cooperation accords, and public participation. Approximately two dozen international environmental protection accords with global implications have been promulgated since the late 1970s under auspices of the United Nations and other international organizations, together with many additional regional agreements. Attempts to address and rectify environmental problems take the form of legal frameworks, economic instruments, environmentally sound technologies and cleaner production processes as well as conservation efforts. Environmental impact assessments have increasingly been applied across the globe. The UNEP also notes that environmental degradation affects the quality, or aesthetics, of human life, but it also displays potential to undermine conditions necessary for the sustainability of human life. Attitudes toward the importance of environmental protection measures reflect ambivalence derived from this bifurcation. On one hand, steps such as cleaning up pollution, dedicating parkland, and suchlike, are seen as embellishments undertaken by wealthy societies already assured they can successfully perform those functions deemed, ostensibly, more essential-for instance, public health and education, employment and economic development. On the other hand, in poorer countries, activities causing environmental damage for instance the land degradation effects of unregulated logging, slash-and-burn agriculture, overgrazing, and mining-can seem justified insofar as such activities provide incomes and livelihoods. Rapid rates of resource depletion are associated with poverty and high population growth, themselves correlated, whereas consumption per capita is much higher in the most developed countries, despite these nations' recent progress in energy efficiency and conservation. It is impossible to sequester the global environmental challenge from related economic, social and political challenges (UNEP, 2005). This “global environmental challenge” leads to the premise that solid waste management in general is promoted by a number of international, regional and national agencies and organizations. Specifically, they are in compliance with Agenda 21, the main product of the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. Such agreement among participating nations emphasized that maximizing

environmentally sound waste through reusing, recycling and other methods can be achieved through appreciation of sustainable development.

Sustainable development generally puts emphasis on three components: economy, environment and society (Ross, 2009). Sustainable development is the internationally-acclaimed solution to solving several global issues, of which waste is only one. Sustainable development is also a catch-all solution for other global issues such as climate change and poverty. The relevance of sustainable development is relevant in this study because it fits not only in various types of human activity, but also in different forms of social organization, such as cities whose development depends on environmental and natural circumstances, particularly on solid waste management. Due to the increasing number of population in cities and the growing consumption, urbanization can have effects that are detrimental to urban communities and cities. This shows the necessity of integrating the concept of sustainable development in the functioning of cities to protect both communities and the environment. It is a physical reality that the generation of waste is intrinsic to urbanization (Mesjasz-Lech, 2014).

3.7 Theoretical Framework

This study shall focus on the theoretical implications of suggested waste management activities by Pohjola and Pongrácz (2004). Since waste has been defined as something unwanted and without purpose, waste management activities should refer to design that operates with the aim of minimizing the waste of materials and energy. Furthermore, waste management should also take into consideration the after-effects of waste collection and disposal, such as the effects of landfills. If material recovery is a possibility, then it is essential to use materials that are most economical to recycle. If incineration will be integrated into a system, chemicals that may lead to toxic emissions should be omitted. In addition, waste management also refers to the creation of products in accordance to a standard. Waste management should ask focus on the lifetime use of products so that disposal of products will be more discrete. Lastly, as an ethical issue, there is a possibility of controlling consumers through legislation or through the use of motivational tools. These modes can influence people by raising awareness and increasing their knowledge through

education. Apart from legislation, the greatest gains occur through a well-informed and environmentally-conscious ethical public (Pohjola and Pongrácz, 2004).

It has been emphasized that waste reduction is an identified good practice and is the gist for effective solid waste management. Reducing the volume of waste reaching disposal sites means lower resulting pollution to the environment. A widely adopted, conceptual solid waste hierarchy, which gives priority to types of solid waste management, based on concepts of sustainability is illustrated in Figure 2.1. This conceptual hierarchy can be viewed as a set of management plans for solid waste as a means of achieving sustainable development. The hierarchy sets forth several waste management strategies or options according to importance and preference in a descending order. The aim is to extract the maximum practical benefits from the products and manage solid waste in the best possible manner, so that the minimum amount of solid waste is generated. It is an internationally accepted and recommended prioritized ranking of waste handling using an ascending order of preference. The hierarchy moves from landfilling and incineration without energy recovery, the least preferred to combustion with energy recovery, then to recycling/composting, finally to source reduction and reuse, the most preferred. Several authors identify a more detailed order of preference: open burning, dump, landfill, incinerate, recycle, reuse, prevent (Henry, Yongsheng, and Jun, 2006; Achankeng, 2004; and Maldonado, 2006). A waste management hierarchy is a widespread element of national and regional policy and is often considered the most fundamental basis of modern solid waste management practice (Achankeng, 2004; Chang and Davila, 2007).



Figure 3.1 Solid Waste Management Hierarchy. Source: www.havant.gov.uk/images/wastetriangle

According to the UNEP (2005), the waste management hierarchy is a widespread element of national and regional policy and is often considered the fundamental basis of good practices in solid waste management. The hierarchy ranks waste management operations according to their environmental or energy benefits. The purpose of the hierarchy is to make waste management practices environmentally sound. It has been deemed as a useful framework for inspiring the creation of policies for conserving resources, minimizing water and air pollution, and for protecting public health and safety (UNEP, 2005).

It is the intention of this paper to use this hierarchy in evaluating whether or not existing waste management practices in Kosovo are prioritized according to the specific components in the hierarchy. Since the hierarchy is considered as a groundwork for creating policies, it may serve as a basis for current laws in Kosovo. It has been discussed earlier on in the chapter that the Kosovo government has not fully enforced any laws towards waste management and that the state struggles with its increasing population (State of Environment in Kosovo 2008-2012, 2011) and thus waste is also generated to a greater extent. Reduction of waste is the first priority under the hierarchy; consequently it also serves as an ideal and primary solution to dealing with increasing populations. By using this framework, this study will be able to link the attitudes and behavior of citizens, as well as government efforts of Kosovo in accordance to the hierarchy.

4 Methodology

4.1 A combination of quantitative and qualitative approach

The objective of this study was to understand the publics' participation and attitudes towards solid waste management and the extent local government is involved. Hence, it was relevant to use both qualitative and quantitative methods because *mixed-methodology* tries to encompass a broader depiction, both narrative, numeric data, and their analyses (Bryman, 2012, p.87). As Leedy & Ormrod (2005) explain, mixed-methods allows for various forms of data that provide rich data from different angles to construct meaningful results.

4.2 Research Methodology

Berg and Lune (2012) describe that qualitative research tries to reach the in-depth and unquantifiable essence social phenomenon, the “ how, when, where, and why of things” (p.3). Essentially, qualitative research refers to “meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things” (Berg & Lune, 2012, p.3). In contrast, quantitative research aims to gather, analyze, interpret and present numerical information (Teddlie & Tashakkori, 2009). Through quantitative data analysis, data is measured to conclude significance between groups or variables.

The mixed-method approach leads to greater validity, ensuring information in broader spectrum that leads to a better understanding of the general study. Further more, the study will have in depth information as to the reasons and decisions the participants make in regards to the specific issues, situations and events.

4.3 Research Design

Research design refers to the entire study process, starting from the conceptualization of the problem, data generations, analysis and explanation of findings (Magilvy and Thomas, 2009). This design corresponds to what Bryman (2009) describes as cross-sectional research design

which aims to gather data from many cases at one given point in time, therefore giving the possibility to analyze relationships across the different variables of interest. Investigation for this specific study was employed with a focus in Gjakova. As Magilvy and Thomas (2009) explain, case study is a specific unit or case that is explored in depth that can lead to explanations that are generalized for other similar cases. Since this study was a cross-sectional study and not longitudinal study, the data was collected at one particular point in time with only one visit to the field for each respondent

4.4 Sample Size

Brymen (2012) explains that “sample” is the segment of the population that is selected for investigation. For this study the sample size was initially 80 however, two participants dropped out making the total of respondents 78. Additionally, two focus groups with 5-6 participants participated in this study and 3 municipality members, the Chief of Solid Waste Monitoring of Kosovo, Çabrati Head of the Waste Management Department and the Chief Chair of Environment.

4.5 Sample Procedure

To begin, I laid out a map of Gjakova city and the surrounding villages and mapped out the different city neighborhoods and villages I was to visit. Upon arrival I approached respondents door to door, however 10 houses were skipped to make it as random as possible between different neighborhoods. Brymen (2009) defines such procedure as *probability sampling*, which is a sample that has been selected using random selection so that each unit in the population has a chance to be selected.

Additionally when choosing the villages, I chose one village towards each direction of Gjakova city, north, east, south, west. In order to keep sampling error as minimum as possible, village respondents were chosen from all different neighborhoods.

The individual interviews were convenient samples which were set up by the local supervisor, where as the focus groups turned into such spontaneously as many gathered to answer questions when they were originally intended for one individual.

4.6 Interviews and Focus Group Discussions

Before proceeding with the semi-structured interviews in the field, it was tested with four different individuals to make sure that questions were not repetitive or unclear. The interview questions were originally written in English and assisted by the co-supervisor, Zeqiri, in Kosovo to be translated as directly as possible to Albanian.

There were 36 questions prepared and it was reduced to 35 after eliminating the question that asked 'Who is the head of the household'. This was removed due to misunderstanding of cultural difference and for reasons that could have been taken offensive due to the patriarchal culture.

In order to achieve both qualitative and quantitative responses for this study questions that were asked consisted of open-ended and close-ended questions

4.7 Document Review

As I was trying to understand which where the villages of Gjakova and the different SWM conditions based in each region of Gjakova, I turned to the Chief of Gjakova for documents to better depict the SWM situation, however, I was refused and told it was illegal to share any documents. Bryman (2012) states that local governments always produce many documents that can help with both quantitative and qualitative studies, and therefore, I looked online to find the following document, "Data from Zyra e Auditorit të Përgjithshem (2012)" which translates to data from the office of the auditor. This document was relevant information that helped give meaningful reflection on the interviews conducted.

4.8 Data Processing and Analysis

All the semi-interviews, which were conducted, were handwritten in Albanian directly into a notebook. After, it was translated into English directly into a program called QuestionPro where it kept all the data electronically. Additionally, this program made it easier to color code the qualitative data and to run statistical analysis through the quantitative data. Berg & Lune (2012) claim that through color-coding, themes are easier emerged for interpretation. For the quantitative variables, Microsoft Excel and COUNTIFS were used providing tables, graphs and bars.

5 Empirical Findings

5.1 Socio-economic/demographic characteristics of respondents

As discussed, solid waste generation will continue to increase as the population and economy increases. However, behavioral tendencies of people vary, and each individual will handle the disposal of their waste differently. Thus, it is important to first outline their socio-economic or demographic characteristics. Out of seventy-nine (78) respondents, they hold the following characteristics:

Table 5.1 The number of respondents based on gender and living in city vs. village.

	City	Village
Female	20	20
Male	19	19

The number of respondents was determined prior to the study, as the goal was to reach out to 80 respondents; 40 from the city of Gjakova and 40 from the surrounding villages of Gjakova. Similarly, the goal was to reach 40 females and 40 males, however, due to 2 dropouts from the study, the total was 40 females and 38 males.

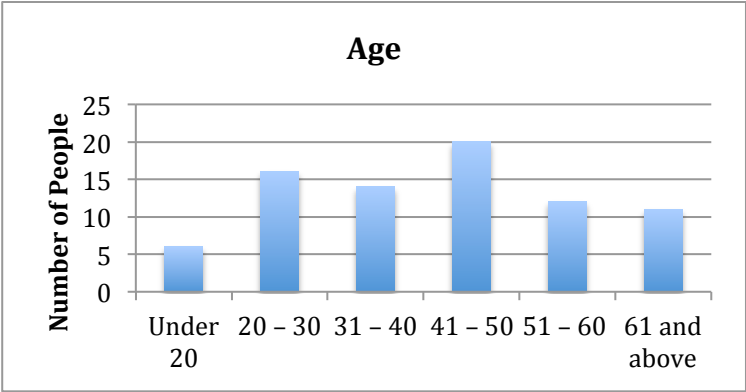


Figure 5.1 Age of Respondents.

Figure 6.1. above illustrates the results of the age of the respondents. There were 6 respondents under 20 years old, representing 7.59%. This age group has the least representation gathered.

Notably, the age group with the most representation is the age group between 41 to 50 year olds, with 20 respondents, representing 25.32%.

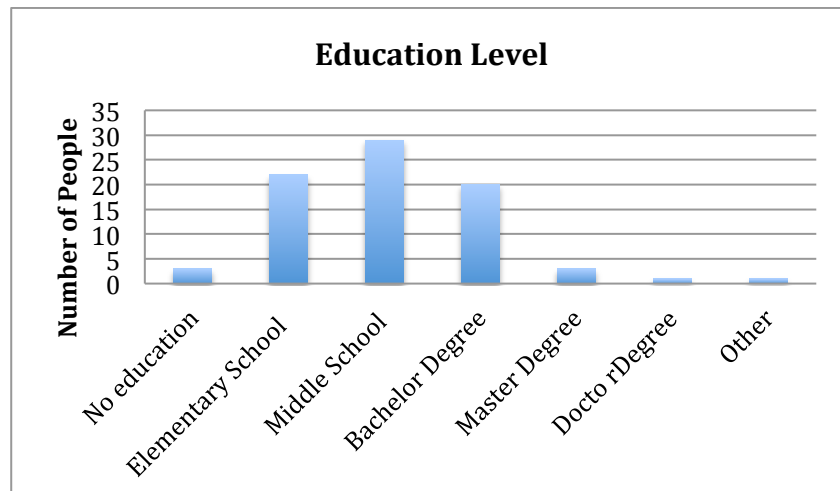


Figure 5.2 Education Level of Respondents.

Separately, *Figure 4.2.* above shows the demographics on the education level of the respondents. A majority of the respondents come from the category where 29 people have finished Middle School, with the highest representation at 36.71%. The third highest representation constitutes of those who have finished a Bachelor’s Degree, with 20 out of the 78 respondents, making up 25.32%. The minority representation in this category is made up of those who have finished a Doctor’s Degree, and other educational pursuits, with 1 respondent for each, making up 1.27% individually. As a theoretical implication, the educational attainment of the respondents are questioned on whether or not their education levels can determine their behavioral tendencies towards solid waste management.

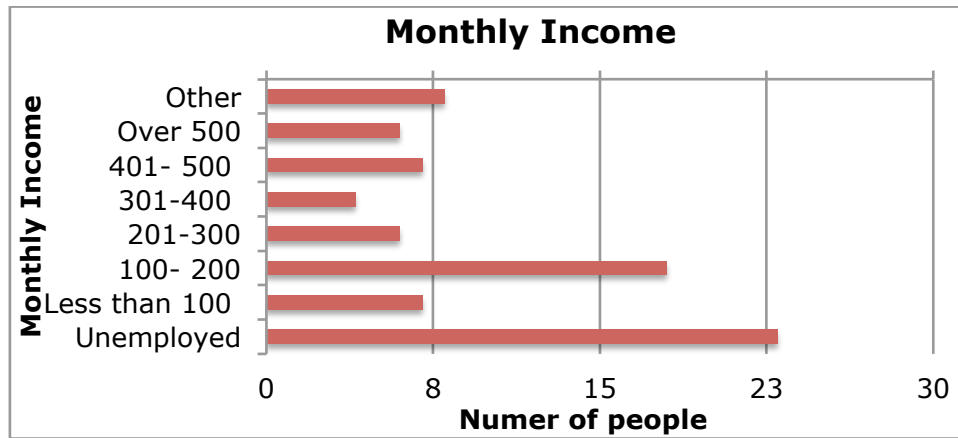


Figure 5.3 Monthly Incomes of Respondents.

The interview also garnered each of the respondent’s approximate monthly income. *Figure 4.3* above shows that the majority of the respondents are unemployed, constituting 29.11%, with 23 out of 78 people. Alarmingly, the second largest group only earns 100 to 200 euro a month, with 18 out of 78 people, making up 22.78%. Notably, the least represented group earns 301 to 400 euros a month, with only 4 respondents allocating 5.06%.

During the survey, the respondents were asked whether or not they paid the monthly fees for waste collection. Most of the 78 respondents answered yes, however, more than 20% responded with a no. Their basis for not paying the monthly fee is grounded on their inability to pay it due to their low family income, or otherwise being unable to afford it. The table above shows that the income statistics average income is between 100 to 200 euros, where almost 30% of all the respondents were unemployed. This implies the concern of poverty, explaining why these fees cannot be paid. Interpreting this information, it can be said that the 30% of the respondents who choose to not pay the monthly fees for waste collection do not see value in paying 5 euros because they in turn do not generate enough waste. For the 30%, the waste collection fees were not considered affordable.

In addition, it is also crucial to note the sentiments and concerns that coupled this question. The respondents who fall within this category question Çabrati on the grounds that: (1) the opinions of citizens and their social conditions are not valued, leaving them with no choice but to comply; and that (2) prices are unfair because they are not generated according to capability to pay. For the other 70% of the respondents who did have the capability to pay, it is important to note that

they, too had concerns regarding waste collection. Their concerns fall under the value they get out of the fees paid, such as an issue where Çabrati does not collect the waste despite having paid their fees.

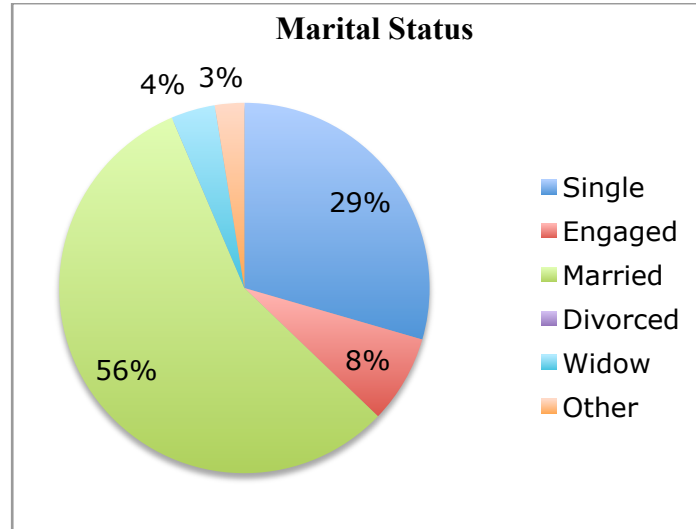


Figure 5.4 Marital Statuses of the Respondents.

As the final demographic that the interview determined, the marital status of the respondents are seen in *Figure 4.4* above. Evidently, the majority of the respondents fall under the married category, with 44 out of 78 respondents, making 56.41%. The second largest category are respondents who are single, constituting 29.49%, or 23 out of 78 respondents.

5.2 Citizen's views and observations of Solid Waste Management

This section intends to address the first specific objective of this study, to wit, to establish the citizens' views and observations of the solid waste managements system in Gjakova and surrounding villages.

Before proceeding with the semi-structured interviews with the respondents in the field, it was tested with key informant individuals to make sure that questions were not repetitive or unclear.

This section on views and observation shall be elaborated for the purposes of satisfying the second and third specific objectives, which are to establish the citizens' feelings towards the solid waste management system and the approaches towards improvements in the future; and to establish their behavioral tendencies and what they feel the local authorities can improve in order to make the citizens more likely to act.

5.2.1 Primary waste management

To begin, each interviewee was asked where they dispose their waste and the amount of bags they discard per week.

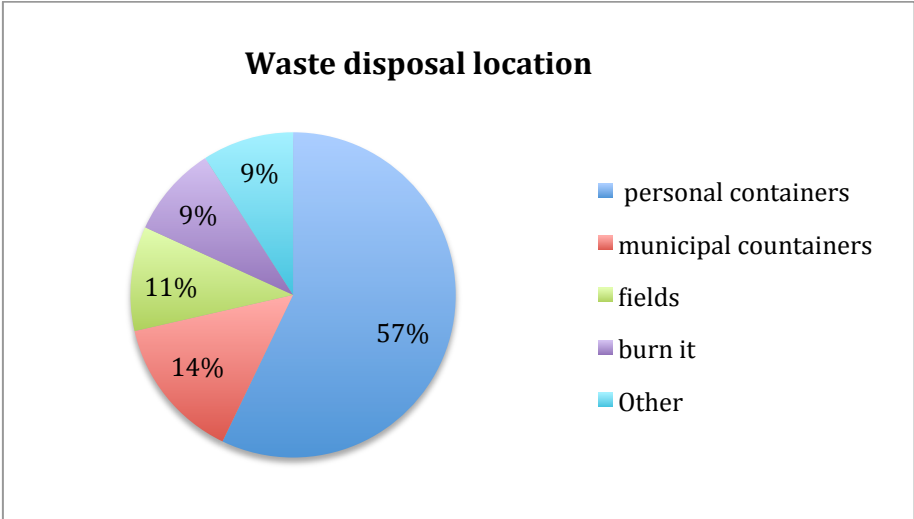


Figure 5.5 Waste disposal location.

A little more than half of citizens own a personal container, others use collective waste containers or dispose of their waste in fields or through burning, specifically for the 30% of the respondents who refuse to pay the fees. This data can be reflected in Figure 4.5. These are alternatives of their individual waste management practices. Respondents mention that they also make use of free containers of markets and dispose of their waste there, or manually digging holes or even resulting to throwing waste in different rivers around. Prevalently, citizens would burn the waste themselves, which raised health issues.

Bec village received containers 6 months prior to the initiation of this study. Since most other citizens have their containers but had to purchase them themselves, Bec was a special case because Çabрати offered them the containers for free. As a result, citizens have begun paying the 5 euro per month despite refusing to pay it in the prior months. However, there are still people who cannot afford it. In general, the respondents feel that they are better off with containers. This emphasizes the importance of the containers in encouraging positive waste management practices.

The waste management practices of the villagers of Bec before were to burn waste in their backyards. After the way, Danish and Holland companies came to teach and train the villagers about waste management and the importance of waste separation, but it appeared that a majority of the villagers were against these practices because it was contrary to their traditional modes of waste disposal, despite evident health threats that accompany burning. Although trainings were provided, the village of Bec was able to adapt better solid waste management only after Çabрати offered their services.

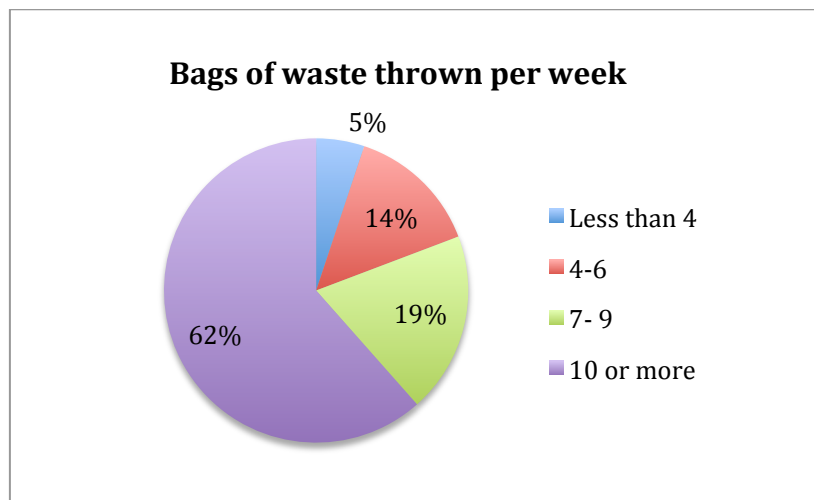


Figure 5.6 Bags of waste thrown per week

62% of the respondents dispose of 10 or more bags a week. *Figure 4.6.* illustrates the approximate amount of bags of waste that are disposed a week by only 78 people. Considering the gravamen of amount of waste, respondents argue that there is too much waste and the containers provided are still not enough. This issue is aggravated due to a lack of segregating practices.

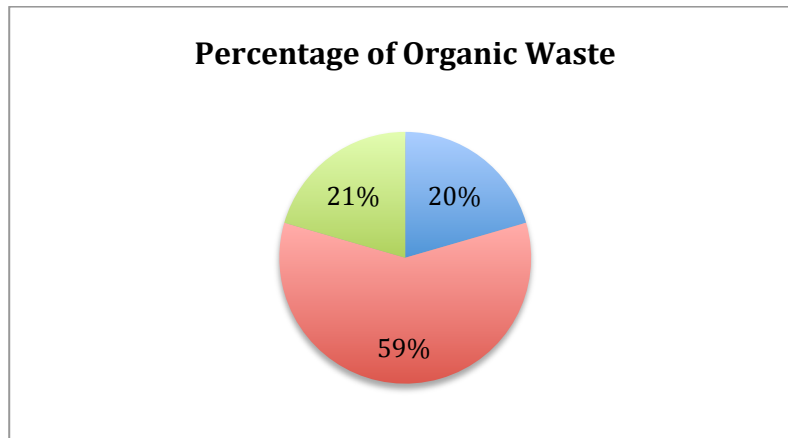


Figure 5.7 Percentage of Organic Waste

Reportedly, 59% of their waste is organic. Presumably, this would have been a good factor for the solid waste management, but respondents contend that organic waste is disadvantageous due to their circumstances. Since the containers are too small, the organic waste, or food waste in particular, emits foul odors. This is particularly experienced by citizens who reside in collective apartments, where their containers are also collective and are situated below their homes. Additionally, they would often complain that dogs would be attracted to these smells and thus make it dangerous for people to approach or dispose of their trash in these containers. Hence, many people opt to leave the waste outside the container. This was true for respondents from the city and the village. Presumably, respondents from the city who were educated were expected to know about the concept of compost, but this was not the case. In contrast to the respondents in the village, they claim that most of the food would be allotted for their animals and gardens. The village people with low educational attainment were more aware of the concept of compost because of their life practices of gardening and tending to animals. This validates the initial discussion of the irrelevance of educational attainment in the respect of education for solid waste management.

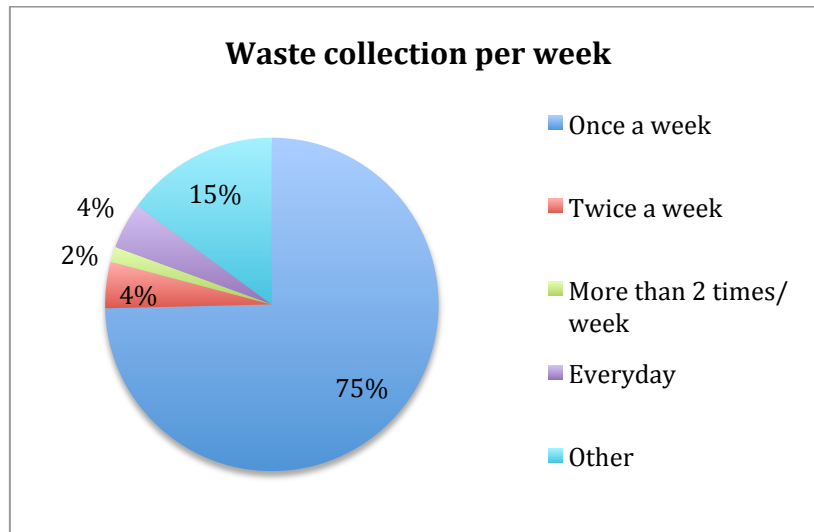


Figure 5.8 Waste collection per week.

Waste is collected primarily once a week by Çabradi, for the respondents who pay the monthly fees. For the 30% of the respondents who do not pay the fees, the company skips picking up their waste.

About 50% of the respondents are not aware of the aftermath of the waste after it has been collected. 25 interviewees were able to identify that waste is brought to landfills after it is collected, and 13 interviewees assumed that the waste is being burned. Generally, this means that 50% of Gjakova's citizens are uneducated about the particular process of waste management, regardless of their educational attainment. Education therefore in this study, should appropriately refer to awareness of the process of waste management, and not just educational attainment. Based on these results, it would not be relevant to conclude that the educational levels of respondents are directly correlated to their behavioral tendencies for waste management. In fact, the waste in Gjakova is collected and taken to a transit waste spot called "Koloni", where waste can only sit for 24 hours, but often sits for many days, it gets burnt emitting smells and smoke that reach the outskirts of the city. After, waste is taken to "Landovic" one of the main landfills of Kosovo where waste is not separated or properly regulated.

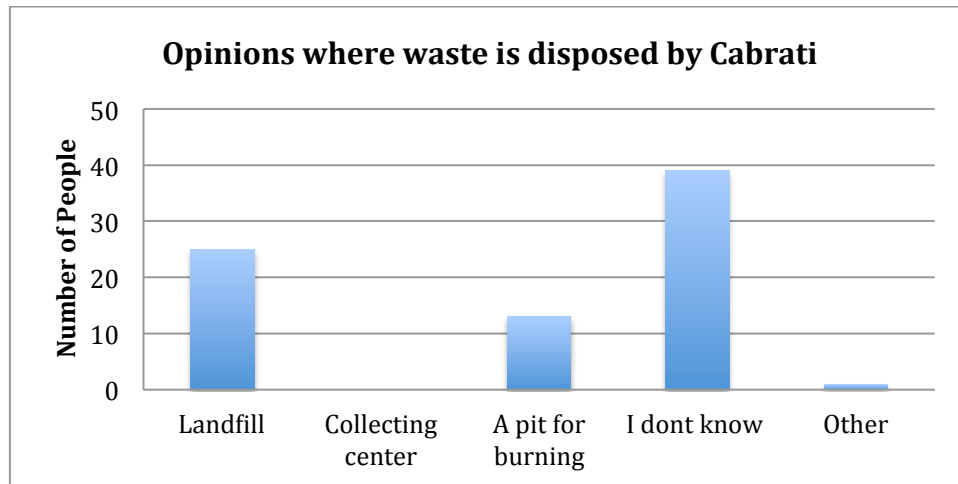


Figure 5.9 Opinions where waste is disposed by Çabrati.

5.2.2 Citizens' opinions on the Company, Çabrati

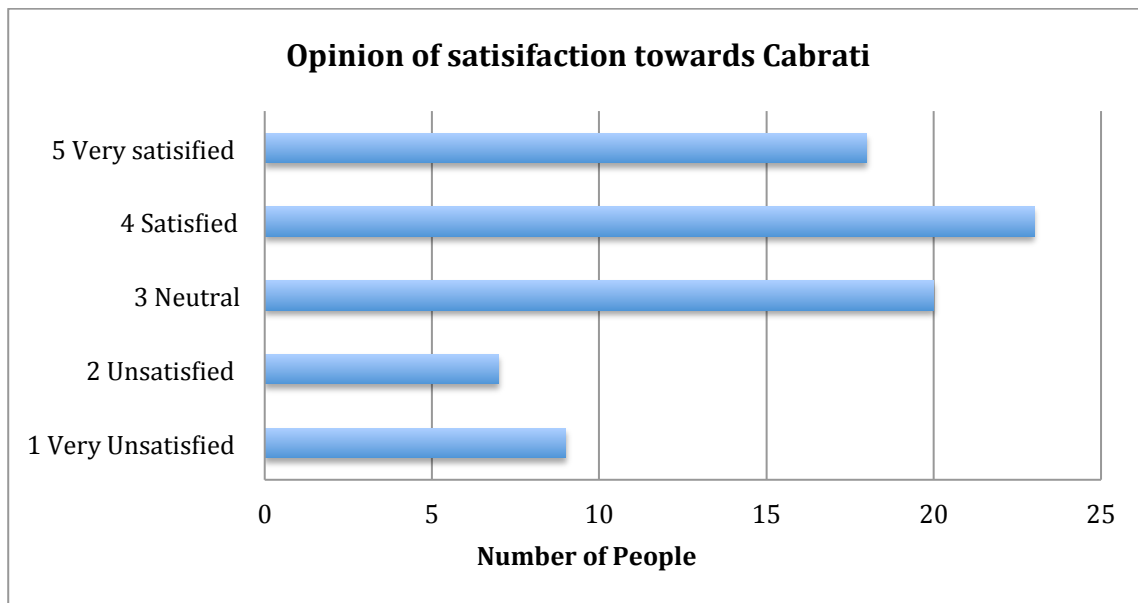


Figure 5.10 Opinion of satisfaction towards Çabrati

Most citizens responded that they were satisfied with the services of Çabrati, but there are also a considerable number of respondents who are neutral or not satisfied. A respondent acknowledged that Çabrati does not do a satisfactory job because the containers that are provided

are not separated for the purposes of segregating waste. On the other hand, there were also respondents who expressed satisfaction for the company because they now use trucks compared to using tractors in the past. The use of trucks according to them is a more effective way of collecting the trash because it does not allow the waste to fall out. For further statistics on their perspectives and opinions on their satisfaction towards the company, refer to *Figure 6.9* and *Figure 6.10*.

5.2.3 Witnessing waste outside their home

Citizens generally answered two of either extremes: they see waste outside their homes, they pick it up and dispose them in containers or they do nothing and continue walking. A majority of the respondents replied that they normally do not do anything. However, 27 respondents replied that they would indeed pick it up and dispose of the waste in containers.

5.2.4 Witnessing waste lying around in the streets and rivers

Citizens generally felt horrible to see waste lying around in the streets and rivers, fundamentally because it is horrible to look at and it produced a foul smell. A respondent showed signs of apathy while pointing out that although it made her feel bad, she does not pay attention to it anymore because it seemed normal to see waste on the streets. Citizens have developed a higher concern for waste in the river instead of on the streets.

While most data showed that citizens were concerned with the smell and the look of the city, there were notable responses that focused on the long-term effects of waste on the environment. One respondent said that plastic on the street made her think about how long it would take for the plastic to decompose. Another also noted that throwing plastic, metal, food, dead animals and even washing cars by the rivers can ruin waters and be detrimental to the health. Villagers expressed their concern for the Lumi Bec, because people used to swim or get fish there from all over the country, which is not so today. The river used to be clear and people were able to see through the water. Now, not even animals drink the water. This is because sewers have been

directed to the river. This has also its negative side effects on the tourism industry, because the waste has made the city look less appealing, and thus discourages people from visiting.

5.2.5 Respect for waste disposal laws

In general, respondents answered confidently by saying that no one follows the laws that exist on waste disposal, or that there are a lack of inspectors to implement these laws or to prescribe fines for discipline. In fact, the Chief of Environment Fatos Deda mentioned that there was only 1 inspector for the entire city and all the villages that surround Gjakova city. It is clearly impossible to accomplish the situation of monitoring waste or prescribing fines with just one inspector in charge of a big population. Residents shared their personal experiences of reporting violators, but receiving no appropriate response from the city council, presumably due to corruption.

5.3 Behavioral tendencies and needed improvements

5.3.1 Significance of waste sort to the respondents

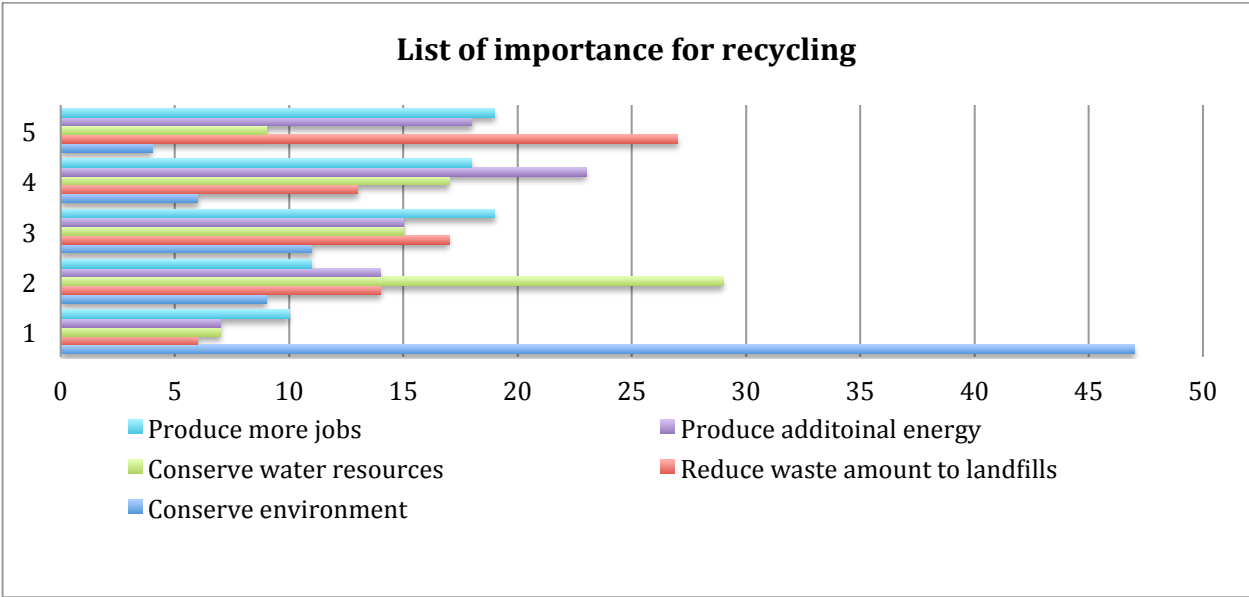


Figure 5.11 List of importance for recycling.

Figure 5.11 illustrates the importance of recycling. The data that most stood out is that most of the respondents feel that the importance of recycling is to conserve the environment primarily, and then to conserve water resources, produce additional jobs, create sources of energy, and lastly, to reduce the amount of waste in landfills.

A majority of the respondents do not separate or sort out their waste in their respective homes. There were a few who generally practice segregation by putting waste in separate bags, but they do not take this seriously because it would all just go into one container after it is collected. However, they do acknowledge that separating waste is important for purposes of saving the trees and conserving the environment. They one that the process would be better if recycling institutions do a better job at separating waste first hand instead of using landfills.

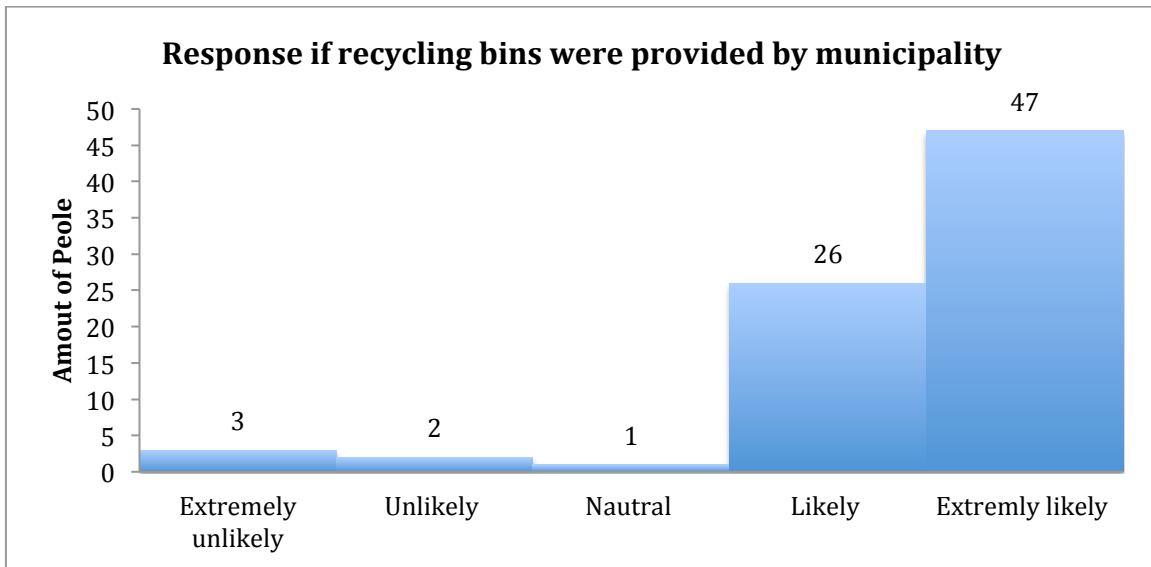


Figure 5.12 Response if recycling bins were provided by the Municipality.

Respondents acknowledge the benefits of recycling institutions, as it would create more jobs and it would be more sustainable to recycle and recreate plastic and glass waste into things that can be useful once again. Some even point out that the waste can be used as a potential source of energy. However, although they could identify these benefits, respondents would still not likely practice the separation of waste even if separate containers were implemented. They noted that it was unlikely because it would be easier to dispose of waste through burning or to throw it in one container, as seen in *Figure 6.12*.

5.4 Challenges of public participation in solid waste management

5.4.1 Respondents suggestions towards the Municipality

The citizens express that laws should be implemented properly and that fines should be prescribed. They suggest that there should no longer be a lack of containers, because the lack of containers play a big role in the fact that there is waste everywhere. They also express their concern for corruption and how officials do not genuinely care for the city. If there were less corruption, the money for the city could be put to better use for the welfare of the city, specifically the management of waste. Their three (3) main suggestions are: (1) to open up

competition to have more private companies engage in waste management; (2) prescribe fines to influence people to follow existing laws and to integrate a sense of obligation; and (3) to educate the community and offer incentives for those who comply with regulations and for those who have exceptional performance in waste management.

5.4.2 Reducing and Reusing waste

27 respondents said that they could reduce the waste they generate at home. They mention that the more they grew in population, the more they also grew economically and thus produce more trash. Waste can be reduced if they minimize the use of plastic bags or stop using plastic bags altogether. There were also respondents who acknowledged the importance of recycling and reusing in order to reduce the waste generated. On another note, 26 said they could not reduce the waste that they generated because there is no way that it could be reduced due to the growing population. Waste separation is a more doable tactic compared to reducing waste.

For reusing waste, the majority of the respondents said they normally would not reuse waste. However, most of the villagers were more likely to reuse waste compared to those in the city. They particularly reused glass for their farming and gardening purposes, such as making compost for their gardens for storing milk, cheese and yogurt.

5.4.3 Concerns on whether or not the final disposal is environmentally safe and acceptable

One of the major concerns was that the waste that was being burned brought about negative effects on their health and on the environment. Respondents recall how the circumstances were more favorable before the war because there was less waste. Today, in addition to the economy affecting consumer behavior, communities and individuals no longer care for the environment.

5.5 Prospects of public participation in Solid Waste Management

5.5.1 Raising Awareness towards Solid Waste Management

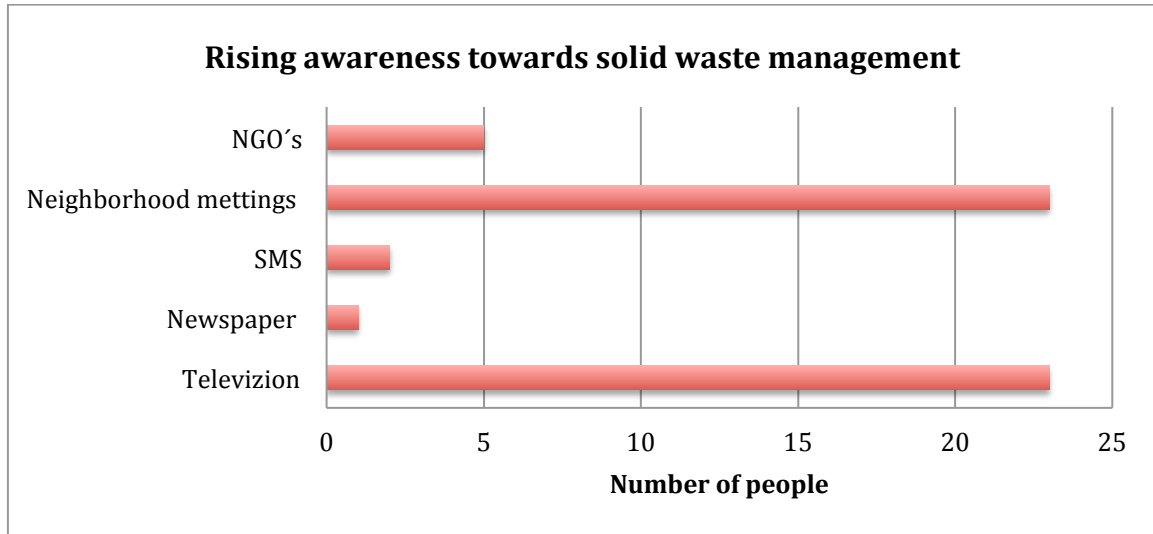


Figure 5.13 Raising awareness towards Solid Waste Management.

The most common answers revolved around the suggestion that the local government should implement fines, assign inspectors, and enhance education on the topic of the environment and solid waste management. This qualifies earlier findings of the study that education about waste and not educational attainment plays a big role in moulding the importance of safety and concern for the environment. The root of the problem can be fixed in schools, and among young children.

Among neighborhoods, awareness can be created to encourage them to help work together to help themselves through facilitating competition and offering incentives. Neighborhoods can collectively organize a compost bin where they can collect their organic waste and then hold activities for gardening in the summer. There should be efforts to make solid waste management a lifestyle, instead of a one-time effort to clean or recycle once a week or once a month. The most common answer was that there should be a notable leader in neighborhoods to have active meetings and to gather and discuss how they could contribute to that specific neighborhood in progressing and moving forward, not just for solid waste management efforts.

5.6 Responses to individual semi-structured interviews

These individuals held positions in the Municipality, and it will be discussed pursuant to the study's third specific objective, which is to determine what they feel are the challenges and what they suggest could be improved in order to make citizens more likely to act positively towards solid waste management.

5.6.1 The Chief Chair of Environment (Fatos Deda)

According to the Chief Chair of Environment, Fatos Deda, Faik Bardoniqi is the inspector responsible for giving out fines for citizens who throw out trash in the streets, waters, or in other public places. He believes that one inspector is not capable of managing the city and all 88 villages. This adopts the intention of these officials to involve citizens in efforts of solid waste management.

Since it is his primary function to create laws for political and educational purposes, he points out the role of education in taking care of the environment. There are existing classes in the education for the environment, but it is insufficient because these classes are of a new state and are not deemed a priority in the current system. Due to the low economy, there is also an insufficient budget for covering the course and assuring that the elementary basics are covered when it is taught. The government therefore relies on a corporation, the Çabrati company, to aid them in the duty to protect the environment. In relation to the role of education, the company has been criticized for employing uneducated workers. This brings in the question of the quality of the service and the aftermath of the waste after it is collected.

Further, he notes that citizens have developed a practice of collecting aluminum cans, yet leave trash outside public containers. He indicates that minorities are believed to be the source of these problems, and that the government is re-considering public containers in general because their size and quantity do not match the standard for how much waste is actually produced daily. In fact, tourists and visitors who come to visit in the summer also contribute to the waste produced,

even more than local citizens. During these times, Çabрати collects trash twice a week, as opposed to collecting it only once a week.

The government is in the process of creating a vision to implement local plans for managing solid waste. At present, due to economic struggle, the government is mainly focused with obtaining donors for money. At present, they have not created an effective plan for recycling, despite 30 recycling containers being donated from the EU that sit in the city of Gjakova. These containers, however, have reported to not be in function.

5.6.2 Çabрати Head of the Waste Management Department (Abdullah Babalija)

Çabрати has a total of 120 workers, who are all minority, male gypsies who come from the city and surrounding villages. Their working conditions are a major concern, because these workers are not respected due to the nature of their job, and further because they are minorities. According to Abdullah Babalija, the company has endeavored to make the workers happy, but it is a continuing difficulty because of the challenge of the lack of finances. Currently, the company has only 15 trucks and 3 tractors. This is insufficient relative to the number of waste that Kosovo produces in a week. Since there is a lack of financial aid, the company itself does not have enough containers, machinery, or trucks. Around 40% of all the households in Gjakova and rural villages are registered under the company, leaving 60% of households unregistered, with no exact statistics as to how they manage or dispose of their waste. Out of the 40% of registered households, only 65% pay the collecting fees



Figure 5.14 Çabrati workers collecting waste outside the bins



Figure 5.15 Waste outside the bin

The lack of infrastructure and material complicates the collection process. The workers have a difficulty collecting waste because citizens are “lazy” and throw trash outside the container (as shown in *Photo 1 & 2*). Small 10-kilo containers are used for house waste, when they are intended for small waste in the streets only. The 1-cubic meter containers also need community investments. The containers remain broken, and the community does not feel an obligation to seek funds or aid to fix them or to seek for bigger containers.

The process for collecting waste is also not systemized, because trash is collected as one instead of in segregations of biodegradable, non-biodegradable, or recyclable. This aggravates the solid waste management process after collection also because there is no landfill for industrial waste. Most of the rivers are affected by industrial waste because communities continue to dispose of

their waste in the rivers, such as the Ereniku River, including surrounding rivers. When asked why there are no existing industrial waste landfills, the Head acknowledges the issue and says that they are currently looking for a place to establish such landfills.



Figure 5.16 Industrial waste in the Ereniku River



Figure 5.17 Plastic bags and plastic bottles laying beside Ereniku River

Another challenge experienced by Çabрати is unaccounted competition from local illegal recycling companies composed of gypsies who are not working for the company. Among these companies is Reciklimi TG Company based in the outskirts of Gjakova City. Reportedly, they collect aluminum, plastic, metal, and other substances from the Çabрати containers. It involves the employment of children under 16 years old, where there is a risk of injury. This conduct is supposedly illegal, but because the local government has not employed inspectors, this illegal

conduct has not yet been fined. They create problems for the company because they take the waste for free and profit from the waste in trade for collection of their recycling items. This conduct also contributes to the waste around containers due to the digging in search of items. Workers must now work harder and longer due to waste found outside of designated containers. The company suggests that positive incentives should be created for these illegal companies.



Figure 5.18 Reciklimi TG's collection of plastic before pressing



Figure 5.19 Reciklimi TG collection of cardboards before shipping

The company feels that recycling would not be a feasible goal because the current issue is primarily with waste collection and management. Although there are now recycling bins donated by the EU located in front of schools, hospitals and the municipality, they are still not functional despite having been collated by Çabrati. The Head stresses on the importance of education and law enforcement, because it would not be enough if the company provided containers, but

communities would still not dispose nor segregate their waste properly. The lack of education and proper law enforcement may fix the problem.

5.6.2.1 Data from Zyra e Auditorit të Përgjithshem (2012)

The document records that 41% of citizens have contracts with Çabрати, which equates to 14,176 registered contracts, leaving 8,336 unregistered. Out of the 8,336, there are 7,013 unregistered households, 1,323 unregistered businesses and 42 unregistered institutions. The document points out that despite the alarming amount of households, businesses and institutions who do not have contracts, Çabрати continues to offer its services. The company has repeatedly tried to get these unregistered entities to sign contracts, to no success. As a result, 95% of Gjakova city is served by Çabрати, regardless of the present of a contract.

Every contract with Çabрати covers the information about the billing, tax amounts, and the collection time for waste. These contracts are obligatory. Out of 41% registered contracts, 64% pay tax according to the data. Failure to pay the fees consequently leads the company to stop collecting waste after 6 months of no payment. Mr Babalija points out that the company thinks that it is the community that is the problem today, because they do not feel any obligation to pay the fee. In the past years of 2011 to 2013, the municipality would not give out certificates for not paying the garbage, however it is no longer in effect anymore. Today, it is now against the law to deprive communities of certificates.

According to their contracts, Çabрати collects waste from five (5) major sources: (1) houses, (2) businesses, (3) institutions, (4) small businesses, and (5) collective living. They collect waste from houses at least 4 times each month, and they collect waste from businesses based on existing contracts. For small businesses, they are collected every day. The company stresses that it is false that they do not collect waste if the community fails to pay their dues. Communities often dispose of their waste in public places if not in containers, and Çabрати is still tasked to collect these wastes.

Issues concerning the collection of waste are much greater during the season of summer, due to the increased amount of waste that is generated by the tourism industry. The company is often

faced with a culture of irresponsible waste disposal that they claim is not based on an individual's financial status or educational attainment level. The Head shares a personal experience of shock caused by famous individuals or artists, who he assumed would be educated about proper waste disposal but instead do otherwise.

5.6.2.2 The Village vs. Gjakova City

The Head notes that the villagers comply with their obligations to pay the fees on a higher level than communities in Gjakova City. Villagers pay 100% of the fees, according to Çabrati. This is because the company has noticed that the mentality in the village is different compared to those in the city. There is a sense of obligation that arises from their social circumstances, and the need to be able to provide for themselves just as their neighbors. The Head calls it as a type of “jealousy” in the village because villagers want to make sure that they pay and are more capable to pay compared to their neighbors. This sense of “jealousy” among villagers has collectively encouraged and influenced them to pay their fees. In contrast with communities in the city, only 60% of residents pay because of the lack of a sense of “jealousy”, presumably due to a higher standard of living. Instead of property paying their fees, residents opt to dispose of their trash in public places or around the neighborhood. Out of 88 villages, only 30 villages are availing of the services of Çabrati.

5.6.2.3 Circumstances before the war

The Head narrates about the circumstances of solid waste management before the war, saying that they were better in comparison to how it is managed today. A major difference that was pointed out was the system of financing. Before the war, utilities for sewers, water and waste were all paid together, while today they are financially independent from each other. With existing legislation in Gjakova, it is difficult to centralize financing efforts because Çabrati or waste collecting efforts in general are linked with the community and are therefore dependent on whether or not they choose to pay fees. For example, if a school does not pay the fees, communities around the school dispose of trash there and it makes it harder to collect.

The chief of environment is supposedly responsible for creating a plan and making a lay out for the system of collecting trash. Today, collective apartments do not designate a space for a container; as they also barely have any space for parking their own cars. There is an evident lack of planning as to where waste containers should be situated. Before the war, every apartment would have respective waste holes so that residents can easily dump waste down a hole which lead to a collective container, which would make it easier for Çabрати to collect.

5.6.2.4 Privatization

Mr. Babalija sees that privatization would not be good or beneficial for Çabрати. He predicts that privatization would result in a city becoming a landfill, and the trash in the rivers will be further neglected. Recycling can potentially be privatized, however waste collection should be taken care of by the State and should be enabled and empowered by the law. Due to the lack of empowering laws, Çabрати is limited from performing its full potential in collecting waste. He notes the 5 euros as a fee should not be a major concern for residents or communities, because citizens spend more money on material things compared to what they spend for managing their own trash.

5.6.2.5 Examples from developed countries

Çabрати would like to set the standard for waste management, provided that they had the same resources as developed countries do. The collective trash in a garage is a standard they would like to adopt, and the profit money collected from the waste collection fees can be utilized to create parks, gardens, or other public facilities that would be good for the environment. The company points out that unlike developed countries, Gjakova and the villages do not have waste containers with locks and keys, proper lids, or more sanitary and attractive regulations to easily influence residents to adapt to a better behavior of disposing waste.

5.6.3 Chief of Solid Waste Monitoring of Kosovo

Chief of Solid Waste Monitoring of Kosovo is responsible for the monitoring of environment and calculation. Based on the interview conducted, it was found that as a governmental entity, they do not interfere with regional companies because they operate under the assumption that the community itself is responsible for managing local trash. The entity produces a yearly report, which monitors private and public efforts. For example, they found that plastic recycling companies have closed down in Kosovo due to the high taxes. The government is highly dependent on financial support from international donors, who have reportedly decreased in recent record.

The government has drafted a recycling strategy. The strategy is aimed to be achieved by the year 2024, where 42% of waste should be biodegradable, and 11% is plastic. However, due to the decrease and lack of international donors, they see that future plans or strategies of recycling will not be feasible. Currently, there are more than 300 tons of waste that are not controlled nor managed by the local government. This amounts to 50% of waste in Kosovo. The Chief sees that this issue is due to the lack of payments from citizens, where 40% of citizens refuse to pay.

Regarding education, the Chief further acknowledges that even local leaders are not educated in the environment. He says that this discrepancy is due to the lack of communication between the regional and central government. However, he also claims that there is an existing section for education, and additionally, informational brochures and programs on television about educating citizens on waste management

5.7 Focus Group Discussion with citizens of the Village of Bec.

A single interview turned into a focus group sample in the Village of Bec. The village has a population of approximately 1,251 people and only has one school. The school does not have mandatory environmental classes, as the State has not issued for such. However, their main economic gains are grounded on agriculture, specifically producing dairy and yogurt. The village accepted Çabrati to come and collect waste from each home. Almost all of the villagers, close to 80%, have started paying 5 euros per month in order to have their waste collected by the

company. On the streets, there are no evident wastes because villagers and gypsies collect aluminum.

A respondent mentioned that for this acceptance of Çabrati to occur, it took six months to make a difference. The villagers used to throw their waste in open areas, and some would not even pay the 5 euros because they could not afford it. Even today, there are still a few who throw their waste in open environments, but they are only a minority. Villagers even have their own containers, as provided by Çabrati. Every week, one truck comes to collect the waste. The change in perspective to appreciate good waste management practices was realized by the villagers because they were taught that the community has the rules that are necessary to achieve practices of good waste disposal. They are currently making efforts to assign inspectors to collect fines for those villagers who continue to throw trash in open fields. They believe that fines are an effective way to start making a difference.

The villagers have expressed concerns with their sewer system, which is connected to the Lumi Beci River. This affects their waters. They are appreciative of the fact that they are able to cooperate with Çabrati, however it is not possible for those who cannot afford it, and thus even dispose of their waste in the river. Supposedly, there should also be a company aside from Çabrati to collect grey water or to maintain the condition of their rivers. They acknowledge the importance of this to the extent that they even wish to have recycling efforts so that the plastic will not contaminate rivers.

Another concern the villagers have is the presence of a 1-hectare illegal open landfill around 2 kilometers away from the village. Waste from the city reaches the village of Bec. Villagers who do not pay the fees go to the landfill to dispose of their trash. Before their engagement with Çabrati, they only had one container that was filled fast. None of the villagers paid the fee six months ago, and the waste was only burnt. Villagers say they had to stay in their homes for 3 days because of the smell emanated from the waste being burnt.

The Chairman of the Village is doing his best to make Bec Village the best village. They have conducted activities encouraging citizens to collect 70-80 bags of trash in a day, offering a 5,000-euro award for the person who did the best job. There is a villager who is also employed to clean the village, taking care of the main streets, and the graveyards. He is given 1 euro by each

of the 252 houses in the village. The local government is also looking for inspectors so they could increase the number of people who can monitor and prescribe fines.

5.8 Focus Group Discussion with Working Men of Reciklimi TG

After noticing minorities collecting recyclable waste, I went for a drive to locate a group to conduct a focus group interview. After arriving close to the transfer landfill “Koloni” I noticed cardboard boxes piled up, plastic laying in one area and a few men working. The man who found the company Reciklimi TG and his working staff were open to all questions and discussions.

The company employs 12 workers, 8 of who collect waste out in the terrain and 4 working in the recycling dumpsite where they press plastic and aluminum and organize cardboards. Their monthly payment is 170 euro per person.

The company has two trucks and only one pressing machine which they made themselves. After plastic, paper is pressed they are then transported to Macedonia, Greece and Turkey. Metal, however, is recycled in Gjakova city. The amount of money they receive for paper is 2.5 cent/kg, for plastic 15cent/kg and aluminum 60cent/kg.

The men explained that they do not receive much support from the local government even though they feel that they are doing the city a good thing eliminating waste. Furthermore, they proclaimed that they do a better job because they actually recycle the items unlike Çabrati who has container in the city for recycling but collects and dumps the waste all in the landfill.

The challenges they are facing are the lack of workers and machinery. They also mentioned that they have recently gained competition by 4 other recycling companies that are doing the same thing. When asked to explain the reasons why they do this job, all answered it is because of money or because they have a goal to feed their families at the end of the month. When asked if they feel they are contributing positively to the environment, they explained that that is not why they are doing this job.

5.9 Behavioral tendencies towards SWM in relation to gender, education level & income

When comparing the level of education and the amount of waste thrown between the village participants and city participant's correlations were depicted. As shown below on *Figure 6.13*, the higher the level of education the greater the waste disposal. Village participants show to dispose greater amounts of waste than city participants.

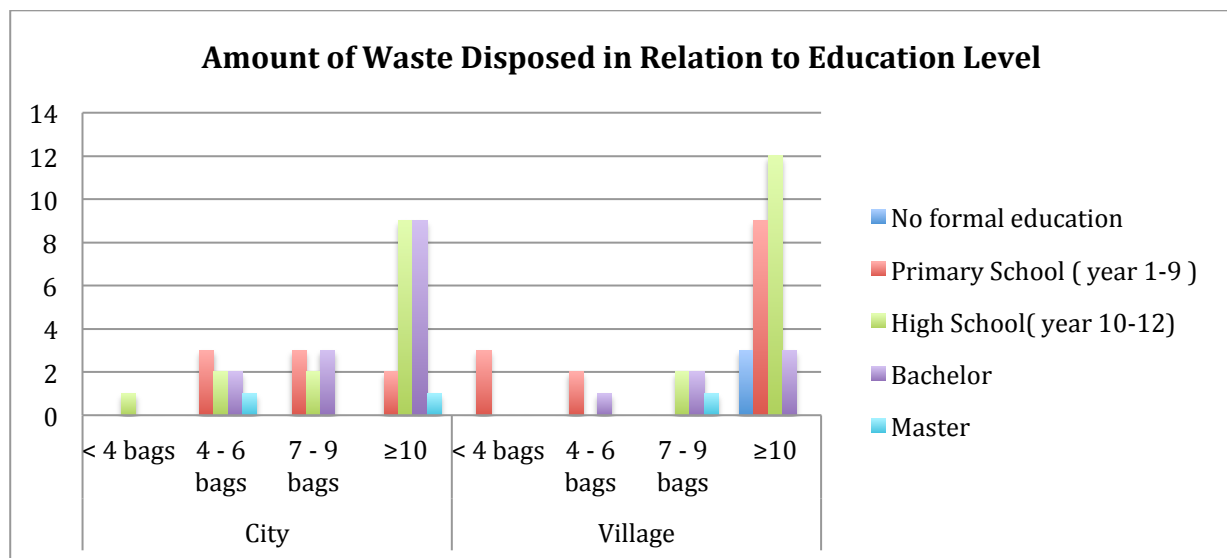


Figure 5.20 Waste Disposal amount in bags based on education level.

Moreover, it is interesting to note that the level of education depicts an increase in income. As shown below only those with a high school and bachelor degree earn more than 200 euros per month.

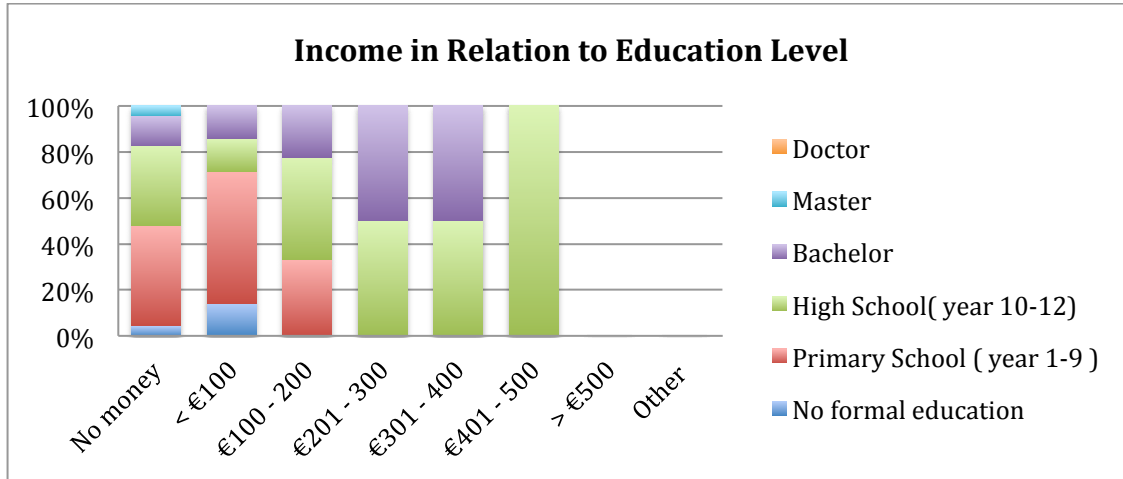


Figure 5.21 Income in relation to education level.

Based on the findings shown in *Figure 6.13* and *6.14*, one can conclude that a higher education leads to a higher increase in income which in turns leads to the production of more waste. To further strengthen the results, a correlation was run between participants' income and the amount of bags discarded per week. The results are shown on *Figure 6.14*.

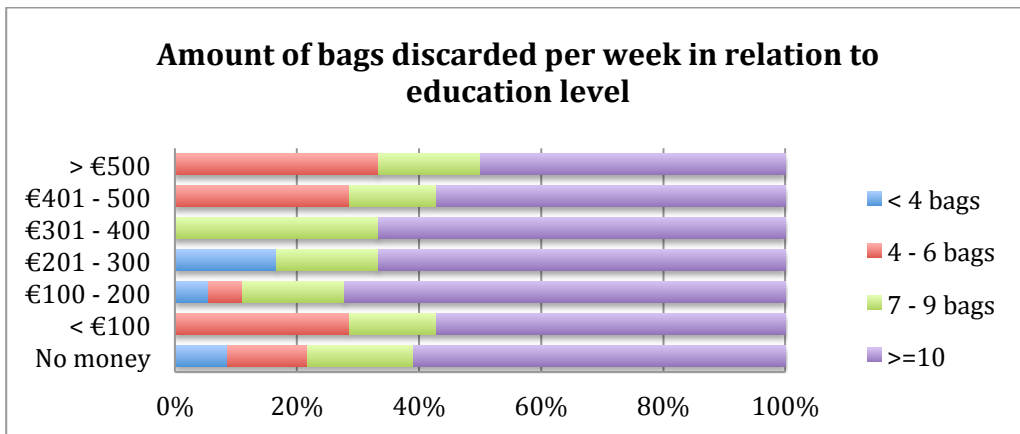


Figure 5.22 The amount of bags discarded in relation to income.

The bar graph (*Figure 6.14*) above shows that 50% of the participants throw more than 10 bags. On a more interesting note, it shows that the more their income increases, the more bags of waste were produced. As shown from the income of respondents who earned 300 and above, no one answered 4 or less bags. Following

this line of logic, it can be inferred that the higher the incomes, the more waste is produced.

As mentioned, a higher income is an indicator of more waste production by households. However, it is also important to note that the amount of people per household is also a great indicator for the amount of waste produced. This graph shows that the more people per household the more bags of waste were produced per a week.

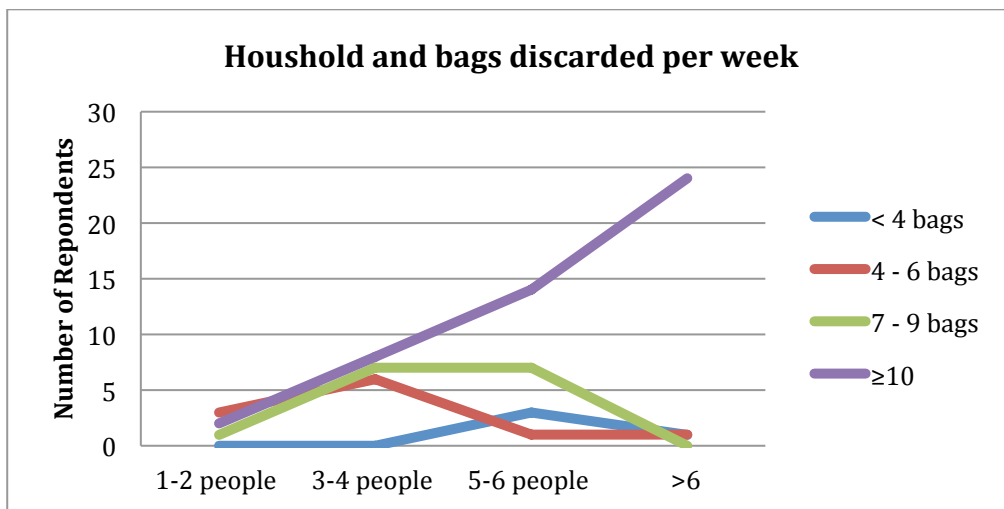


Figure 5.23 The amount of household members and bags of waste discarded per week

When examining the amount of people that pick up waste from the streets to discard in bins based on the education level, those which held bachelor degrees were more likely to pick it up and discard, where as those with a high school degree were more likely to ignore it. Based on this data alone, it is a possible conclusion that the more educated are more likely to pick up the waste from the street and discard it in the trash bin. Many answered this question as “other” which is not depicted in the graph. The respondents who chose “other” explained that they would pick up the waste to discard it only if it was in front of their homes and not elsewhere.

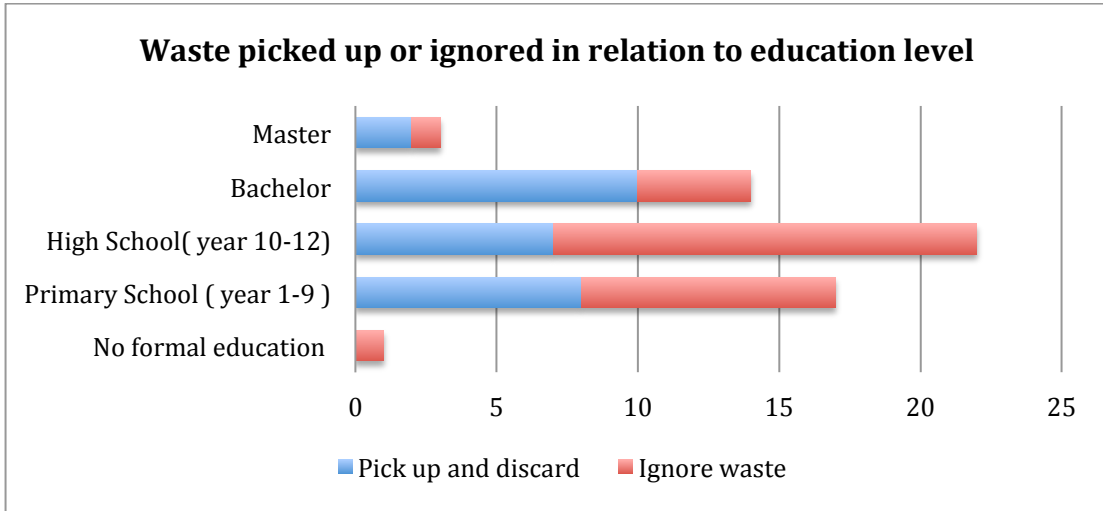


Figure 5.24 Behavior towards waste when seen on the street in relation to education level

6 Analysis

Predictably, as a young developing country, Kosovo struggles to catch up economically with the rest of the world. The population in Kosovo has increased rapidly, contributing to the economic struggle: not every person gets wealthier, but the increasing populations continue to generate more waste. This chapter will discuss about the theoretical and practical implications of the data found in the preceding chapter in consideration of these issues.

Behavioral tendencies of waste management practices vary, and each individual will handle the disposal of their waste differently. Although it has been argued that it is the responsibility of the government to provide the services to the citizens (Cointreau- Levine and Coad, 2000), public participation is essential particularly in Gjakova. Based on the data provided, both the local government and citizens have failed to comply with their individual responsibilities for solid waste management. On one hand, the local government has failed to provide adequate services and policies. On the other hand, communities continue to refuse to pay waste collection fees, and continue to dispose their waste either illegally or inappropriately, aggravating the conditions.

The chapter will proceed with the discussion elaborating on public participation, the challenges of public participation, strategies to achieve future public participation, and limitations to the analysis presented.

6.1 Public participation

The act of protecting the environment is embodied not only in domestic principles, but all the more in the international sphere, through the good neighborliness principle, which is embodied in 1992 United Nations Conference of Environment and Development. It requires states to take care and protect the environment in order to avoid damaging its neighboring countries. In this case, protecting the environment should be an act of goodwill that must be cultivated by the citizens even without incentives or supervision of the government. The concept of public participation is grounded on the theory that authorities cannot be immediately trusted with public concerns, and thus strategies should be left to the public to take full responsibility (Evan, 1996).

As discussed, Chess and Purcell (1999) tell us that the context of participation is not necessarily understood as having an impact on the success or failure of a program, because other factors such as the experts of planning and commitment may also contribute. This brings in the dilemma of the variety of opinions on what strategy will work best, because individuals value different things and have differing capabilities (particularly financially). The variety of opinion that is needed for effective public participation should not only come from the citizens, but also those who are responsible for planning and execution, which in this study are the government officials and corporations in charge of collecting waste.

6.2 The challenges of public participation

6.2.1 Poverty/Limited resources

During the survey, the respondents were asked whether or not they paid the monthly fees for waste collection. Most of the 78 respondents answered yes, however, more than 20% responded with a no. Their basis for not paying the monthly fee is grounded on their inability to pay it due to their low family income, or otherwise being unable to afford it. Figure 5.3 shows that the income statistics average income is between 100 to 200 euros, where almost 30% of all the respondents were unemployed. This implies the concern of poverty, explaining why these fees cannot be paid. Interpreting this information, it can be said that the 30% of the respondents who choose to not pay the monthly fees for waste collection do not see value in paying 5 euros because they in turn do not generate enough waste. For the 30%, the waste collection fees were not considered affordable.

In addition, it is also crucial to note the sentiments and concerns that coupled this question. The respondents who fall within this category question Çabрати on the grounds that: (1) the opinions of citizens and their social conditions are not valued, leaving them with no choice but to comply; and that (2) prices are unfair because they are not generated according to capability to pay. For the other 70% of the respondents who did have the capability to pay, it is important to note that they, too had concerns regarding waste collection. Their concerns fall under the purview of the value they get out of the fees paid, such as an issue where Çabрати does not collect the waste despite having paid their fees. These circumstances can be predicted to be due to Kosovo's GDP. It has been pointed out earlier in the study that in 2005, 50% of Kosovo's GDP relied on foreign

remittance for post-war development (Kosovo Environment and Climate Analysis, 2008). With relatively new governing institutions, Kosovo lacks the financial means to implement and monitor environmental legislation, which is identically true in Gjakova. Coupled with the existing low government funds and a lack of financial support and donors, education and inadequate basic infrastructure, the data collected now verifies the earlier contention that Gjakova's main concern should not be adopting large-scale recycling, but how to implement basic legislation and induce educated citizens in terms of solid waste management. Based on the recommendations of the UNEP (2005) and the solid waste management hierarchy, it is evident that local legislation in Gjakova should prioritize the reduction of waste in response to their increasing population accompanied by an even more increasing amount of waste.

At the offset, solid waste management is given little to now priority in other developing countries as well, except in capital and large cities. As a result, very limited funds are provided to the solid waste management by the local governments. Levels of services that are required for protection of public health and the environment are further unattained (Ogawa, n.d.). This mirrors not just the situation in Gjakova, but also of other developing countries. The main problem is rooted at the local government level where the local taxation system is inadequately developed. Since it lacks emphasis, the financial basis for public services, particularly solid waste management is weak (Ogawa, n.d.). In this study, the fees for solid waste management are left to a private corporation, when in practice of developed countries, it must be the responsibility of the State. It is acknowledged that the citizens' ability to pay for the services is very limited in poorer developing countries, and their willingness to pay for the services which are irregular and ineffective is also low. An effective strategy for raising funds needs to be searched in any collaborative project to ensure its sustainability. In addition to the limited funds, many local governments in developing countries lack good financial management and planning. The lack of financial management and planning, particularly cost accounting, serves to deplete the limited resources available for the sector even more quickly, and causes the solid waste management services to halt for some periods, thus losing the trust of service users as a result (Ogawa, n.d.).

6.2.2 Lack of education

The present primary and secondary education system in Kosovo does not make environmental studies obligatory in the nine years of their education curriculum (Hyseni Spahiu, 2014). In higher education, textbooks used include little and outdated information about the environment (Hyseni, 2008). However, as established in Chapter 4, this study would like to emphasize on a different definition of education. 50% of the respondents are not aware of the aftermath of the waste after it has been collected. Generally, this means that 50% of Gjakova's citizens are uneducated about the particular process of waste management, irregardless of their educational attainment. Education therefore in this study, should appropriately refer to awareness of the process of waste management, and not just educational attainment. Based on the results in Chapter 4, it would not be relevant to conclude that the educational levels of respondents are directly correlated to their behavioral tendencies for waste management.

6.3 Strategies of future public participation

6.3.1 Formal disposal facilities and the need of inspectors and enforcement actions

There is an evident need for formal disposal facilities, not just by private companies, but one that is empowered by law and supported by local governments. Overall solid waste management plans at both the national and local levels are essential for utilizing limited resources most effectively, and providing a frame of reference for potential external support, which could address concerns of the local governments of Gjakova for not receiving any other foreign grants. The formulation of national and local strategic plans for solid waste management should be considered (Ogawa, n.d.).

As a part of a formal facility, it must be coupled with regulatory punishment for violations. It is a proven concept in environmental studies that the granting of permits, holding of inspections, and enforcement activities that are conducted are done by a regulatory authority (Shimsack and Ward, 2005). These regulatory authorities must be the very authorities that also manage or at least govern the process of solid waste management. Monthly self-monitoring reports are the

primary source of compliance informations, and frequent regulator inspections are intended to ensure the accuracy of these reports. Enforcement actions range from prescribing fines to issuing warnings to violators. Aside from fines, the most common intermediate enforcement actions (IEAs) are in the form of formal administrative orders, formal notices of non-compliance, and administrative consent orders. As a fact, a fine produces a large decrease in violation rates (Shimsack and Ward, 2005). Thus, the eminent need for Gjakova to invest in the enforcement of their existing legislation, or the amendment of these legislations to create appropriate policies that address violations, or provide incentives. To recall, the importance and necessity of these incentives are grounded on traditional models in environmental studies that contend that if individuals had the correct attitudes and the optimum practical facilities, then correct behavior would follow (Hobson, 2003). These much-needed incentives and fines can encourage the correction of public attitudes of the people of Gjakova to comply and discard their waste properly.

6.4 Limitations

This study is limited to the data collected during the conducted semi-structured interviews and group discussions, and to existing literature on solid waste management. The paper has presented real-world situations of data from communities and people directly affected by the issue of solid waste management, but does not in any way create binding obligations on the part of any of its respondents or for its intended audience.

7 Conclusion and Recommendations

7.1 Conclusion

Humans have generated garbage even before the concept of consumerism. Throughout history, trash has been dealt with through dumping, burning, recycling and minimization. Today, improper solid-waste management can cause negative effects on our health through outbreaks of diseases and our environment. It has been established in this paper that solid waste generation will continue to increase as the population and economy increases. However, behavioral tendencies of people vary, and each individual will handle the disposal of their waste differently. Among the major concerns of this issue is the prevalence of poverty and limited resources, and the lack of education.

There is also an evident need for formal disposal facilities empowered by law and supported by local governments. Overall solid waste management plans at both the national and local levels are essential for utilizing limited resources most effectively, and providing a frame of reference for potential external support. As a part of a formal facility, it must be coupled with regulatory punishment for violations. Fines decrease the likeliness of violations. There is thus an eminent need for Gjakova to invest in the enforcement of their existing legislation and to enact enforcement measures.

7.2 Recommendations

It is hereby recommended and suggested that further studies are to be conducted on solid waste management, particularly on the subject of the effectiveness of private corporations versus state-controlled efforts for solid waste management. Comparative studies between other developing countries would also prove as useful insight for cities like Gjakova and can be used as a more practical standard for improvement, as comparisons with developed countries would not assure parallelism in economic or social circumstances.

Bibliography

- Achankeng, E. (2004). *Sustainability in municipal solid waste management in Bamenda and Yaounde*. Cameroon. PhD Thesis, Adelaide, University of Adelaide.
- Barr, S (2004). What we buy, what we throw away and how we use our voice. Sustainable Household waste management in UK. *Sustainable Development*, 12, 32-44.
- Chang, N. B., and Davila, E. (2007). Minimax regret optimization analysis for a regional solid waste management system. *Waste Management*, 27 (6): pp. 820-832.
- Chess, C. and Purcell, K. (1999). Public Participation and the Environment: Do We Know What Works?. *Environmental Science and Technology*, Vol. 33(16), pp. 2685-2692.
- Cheyne, I and Purdue, M. (1995). Fitting definition to purpose: the search for a satisfactory definition of waste. *Journal of Environmental Law*, Vol. 7(2), pp. 149–168.
- Cointreau-Levine, S. and Coad, A. (2000). *Guidance Pack: Private sector participation in municipal solid waste management, St. Gallen*, SKAT: Swiss Center for Development Cooperation in Technology and Management
http://www.worldbank.org/urban/solid_wm/erm/CWG%20folder/guidancepack_part2.pdf
- Collins, K. L. (1998). *A study of local opposition, waste management and community consultation*. PhD Thesis. Faculty of Environmental Management and Agriculture, Sydney, University of Western Sydney.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovic College Publishers.
- Evans, P. (1996). Government Action, Social Capital and Development: Reviewing the Evidence on Synergy. *World Development*, 24, 1119-1132
- Fahy, F. (2005). The Right to Refuse: Public Attitudes and Behavior towards Waste in the West of Ireland. *Local Environment*, Vol. 10(6), pp. 551-569.
- Fetah, H., Gashi, A. & Pupovci, D. (2009). National Background Report On Environmental Research for Kosovo (under UNSCR 1244). http://wbc-inco.net/object/document/9841/attach/0_1Report_Kosovo_UNSCR1244.pdf
- Henry, R. K., Yongsheng, Z., and Jun, D. (2006), "Municipal solid waste management

- challenges in developing countries – Kenyan case study", *Waste Management*, 26 (1): pp. 92-100.
- Hobson, K. (2003) Thinking habits into action: the role of knowledge and process in questioning household consumption practices. *Local Environment*, Vol. 8(1), pp. 95–112.
- Hogg, M., & Vaughan, G. (2005). *Social Psychology* (4th edition). London: Prentice-Hall.
- Hyseni, M. (2008). *Perception of and Attitudes Towards Biodiversity by Experts and Lay Persons in Kosovo—A Key to Conservation*. Master's Thesis. Institute of Environmental Sciences, University of Zurich.
- Hyseni Spahiu, M. (2014). *Environmental education in Kosovo: current state and future developments*. Pädagogische Hochschule, Bibliothek, Karlsruhe. Retrieved from <http://opus.bsz-bw.de/phka/volltexte/2014/14>
- Kabashi-Hima, A. (2011). Education for Sustainable Development Kosovo: Research report.
- Karibo, E.O. (2008). *Waste Management and Job Creation in the Niger Delta*. A paper presentation at the 2nd Annual Dare 2 Dream Youth Summit in Effurun, Nigeria August 30, 2008.
- Kaseva, M. E., and Gupta, S. K. (1996), "Recycling-an environmentally friendly and income generating activity towards sustainable solid waste management: Case Study-Dares Salaam city, Tanzania", *Resources, Conservation and Recycling*, 17 (4): pp. 299- 309.
- Krasniqi, I. (1905). *Waste management action plan for the municipality of Prishtina*: [presentation given August 23, 2010]. Rochester Institute of Technology.
- KEAP (Kosovo Environmental Action Plan) (2006). Kosovo Environmental Action Plan 2006 – 2010. Executive Summary. Pristina: Ministry of Environmental and Spatial Planning. <http://kos.rec.org/english/pdf/KEAPS.pdf> (retrieved 29 August 2012).
- Leedy, P.,D & Ormrod, J.,E (2005). *Practical Research: Planning and Design*, New Jersey, Personal Education International
- Local Environment Action Plan(2009-2015). Gjakova Municipality. Regional Enviornmental Center. SIDA.
- Lindemann-Matthies, P., Hyseni, M. (2009). Perception of and knowledge about biodiversity by stakeholders and laypersons in Kosovo. *Journal of International Environmental*

- Liska, A. E. (1975). *Introduction*, in: A. E. Liska (Ed.) *The Consistency Controversy: Readings on the Impact of Attitude on Behavior*. New York: Wiley
- Maldonado, L. (2006). The economics of urban solid waste reduction in educational institutions in Mexico: A 3-year experience. *Resources, Conservation and Recycling*, 48 (1): pp. 41-55.
- McCormick, J. (2001) *Environmental Policy in the European Union*. Basingstoke: Palgrave
- Mesjasz-Lech, A. (2014). Municipal waste management in context of sustainable urban development. *Social and Behavioral Sciences*, Vol. 151, pp. 244-256.
- Ministry of Environment and Spatial Planning: Kosovo Environmental Protection Agency. (2011). *State of Environment in Kosovo 2008-2012*. Retrieved from [http://www.ammk-rks.net/repository/docs/The_state_of_environment_in_Kosovo_2008-2010_\(1\).pdf](http://www.ammk-rks.net/repository/docs/The_state_of_environment_in_Kosovo_2008-2010_(1).pdf)
- Ogawa, H. (n.d.). Sustainable Solid Waste Management in Developing Countries. WHO Western Pacific Regional Environmental Health Centre (EHC). <http://www.gdrc.org/uem/waste/swm-fogawa1.htm>
- Othman, J. (2002), "Household preferences for solid waste management in Malaysia", Bangi, Universities Kebangsaan Malaysia.
- Pongrácz, E. (2002). Re-defining the concepts of waste and waste management: Evolving the Theory of Waste Management. Doctoral dissertation. *Department of Process and Environmental Engineering*, University of Oulu, Finland.
- Pohjola, V. J. and Pongrácz, E. (2004). Re-defining waste, the concept of ownership and the role of waste management. *Conservation and Recycling*, Vol. 40, pp. 141-153.
- Ross, A. (2009). Modern Interpretations of Sustainable Development. *Journal of Law and Society*, Vol. 36(1), pp. 32-54.
- Kosovo Environment and Climate Analysis (2008). School of Business, Economics and Law UNIVERSITY OF GOTHENBURG. <http://www.sida.se/globalassets/global/countries-and-regions/europe-incl.-central-asia/kosovo/environmental-policy-brief-kosovo.pdf>
- Kosovo Country Environmental Analysis "Cost Assessment of Environmental Degradation, Institutional Review, and Public Environmental Expenditure Review <http://siteresources.worldbank.org/INTKOSOVO/Resources/KosovoCEA.pdf>

Kosovo: 2014-2018 Country Development Cooperation Strategy

https://www.usaid.gov/sites/default/files/documents/1863/CDCS_Kosovo.pdf

Shimsack, J.P. and Ward, M.B. (2005). Regulator reputation, enforcement, and environmental compliance. *Journal of Economics and Management*, 50: pp. 519-540.

Teddlie, C. & A. Tashakkori (2009). *Foundations of Mixed Methods Research*. Thousand Oaks, CA: Sage Publications.

Veselaj Z. 2011 "Environment", Monograph of Kosovo" 2011 Vol.1 p. 83-91, Kosovo Academy of Sciences and Arts, Prishtina

https://www.researchgate.net/profile/Veselaj_Zeqir/publications

Zyra e Auditorit të Përgjithshëm (2013). Raporti I Auditimit për mbiqyrjen e sistemit të mbeturinave dhe ofrimit të shërbimeve nga KRM Çabrat për vitin 2012.

Appendices

Appendix 1:

Interview Questions (Albanian)

1. Ku jetoni, ne qytet, a ne fshat?
 - a. Qytet
 - b. Fshate
2. Mosha
 - a. më pak se 20
 - b. 20 – 30
 - c. 31 – 40
 - d. 41 – 50
 - e. 51 – 60
 - f. 61 ose më shumë
3. Gjini
 - a. Male
 - b. Female
4. Niveli I edukimit?
 - a. Pa shkolle
 - b. Shkolle fillore / shkolla ulte 1-9
 - c. Shkolle mesme / 10-12
 - d. Shkolla e larte / fakultet / bachelor
 - e. Master
 - f. Doktor
5. A keni marrë ndonjë informacion në lidhje me mjedisin gjatë viteve tuaj të arsimit (p.sh.: ndotja, ngrohjen globale, kanalizimet e ujit, varfërimin e tokës, etj)
6. Paga mujore ne euro
 - a. Pa pune
 - b. Less than 100
 - c. 100- 200
 - d. 201-300
 - e. 301-400
 - f. 401- 500
 - g. Mbi 500
 - h. Other
7. Statusi Martisore
 - a. i/e vetëm
 - b. i / e fejuar
 - c. i/e martuar
 - d. i/e divorcuar
 - e. i/e ve
 - f. Other
8. Sa antare te familjes jeni?
 - a. 1-2

- b. 3-4
 - c. 5-6
 - d. More than 6
9. Ne shtëpine tuaj a keni kontinjer te mbeturinave?
- a. po
 - b. jo
10. Kontinjerin që e keni ne shtëpi e keni blere vete a e keni dhurate nga kompania ?
11. Sa qese mbeturinash mbledhni per nje jave?
- a. Me pakë se 4 plastika
 - b. 4-6
 - c. 7- 9
 - d. 10 ose më shumë
12. Sa perqind te mbeturinave eshte organike?
- a. më pak se 30%
 - b. 30% - 50%
 - c. më shume se 50%
 - d. Other
13. Ku i hidhni mbeturinat? (Village: A i digjni mbeturinat grumbell me mbeturinat e lagjes, apo vetem mbeturinat e familjes juaj?)
- a. Kontinjerat personal
 - b. Kontinjerat e qytetit afer shtepise/baneses
 - c. Ne ambjente të hapura
 - d. E djegni
 - e. Other
14. Kush vjen për të mbledhur mbeturinat tuaj? (Village: Mbeturinat që mbesin, a vjen diksuh mi marr)?
15. Sa here ne jave vijne për të mbledhur mebturinat?
- a. 1
 - b. 2
 - c. me shume se dy here
 - d. cdo dite.
 - e. Other
16. Prej 1 deri ne 5, si e vlerseoni kompanine që mirret me mledhjen e mbeturinave?
- a. 1 Fare te kenaqur
 - b. 2 Te pa kenaqur
 - c. 3 Nautral
 - d. 4 Te kenaqur
 - e. 5 Shume te kenaqur
17. A e beni pagesen per mbledhjen e mbeturinave?
- a. Po
 - b. Jo
18. A eshte e perballueshme pagesen që e beni?(Ne qofse, Çabrati mundet me ardh ne fshatin tuaj per te mbledhur mbeturinat, a ju duket cmimi 5 euro ne muajt i perballushem?)
- a. Po
 - b. Jo
19. Ku perfundohen mbeturinat pasi që mblidhen?
- a. Deponim
 - b. Qendra e koleksionimit
 - c. Gropa per djegje
 - d. Nuk e dini

- e. Other
20. A mendoni qe depositimi perfundimtar eshte per mjedisin i pranueshme dhe i sigurt?
21. Kur shihni mbeturina jashte shtepise, si veproni?
- E merrni dhe e hidhni ne kontinjer
 - Asgje, vazhdoni rrugen
 - Other
22. A ka ligje dhe a zbatohen?
23. Si ndiheni kur shihni mbeturina ne rruge, ne lumenj, liqe, etj?
24. Cka mendoni qe komuna mund te beje per mbeturinat ne rruge?
25. A mendoni qe mund te zvoglohet numri i mbeturinave ne shtepin/ dyqan personale?
26. A i riperdoni ndonje here mbeturinat qe i krijoni?
27. A i klasifikoni mbeturinat ne shtepine tuaj?
28. A eshte me rendesi ndarja e mbeturinave? Nese po, pse?
29. Cilat mbeturina mendoni qe duhen te klasifikohen?
30. Si kishit vepruar ju ne ndarjen e mbeturinave ne qoftese ju keni kontinjer te posacem ne shtepin tuaj?
- Nuk e kishe praktiku
 - Deri diku e kishe praktiku
 - Nautral
 - Po
 - Shume e kishe praktiku
31. Prej 1-5 renditi me te rendesishme per ty (1 eshte shume e rendesishme, 5 pak e rendesishme)
- Reciklimi mbron ambjentin _____
 - Ulet numri i mbeturinave qe dergohen ne deponim _____
 - Mbrone burimet ujore _____
 - Ndihmon me prodhimin e energjise _____
 - Ofron pune _____
32. Si mendoni ju qe mund te vetedijsohet popullata per praktimin sa me te mire per mbledhjen dhe reciklimin e mbeturinave?
33. Cila eshte menyra me a mire per informimin e njerzeve rreth reciklimit te mbeturinave?
- Televizion
 - Gazeta
 - SMS
 - Mbledhje aktive te lagjeve
 - Organizata jo qeveritare
 - Other
34. Si mendoni ju, qe mund te behet vetdijesimi i njerzeve duke bashkepunuar ne mes lagjeve rreth kesaj ceshtje?

Appendix 2:

Interview Questions (English)

1. Age
 - a. Under 20
 - b. 20 – 30
 - c. 31 – 40
 - d. 41 – 50
 - e. 51 – 60
 - f. 61 or more
2. Gender
 - a. Female
 - b. Male
3. Education Level
 - a. No school completed
 - b. Elementary school
 - c. Middle school
 - d. High school
 - e. Some college credit (no degree)
 - f. Associate Degree (2 year college)
 - g. Bachelor’s Degree
 - h. Master’s Degree
 - i. Doctorate Degree
4. Have you received any information regarding the environment during your education years (e.g: pollution, global warming, water sanitation, soil depletion, etc)
 - a. Yes
 - b. No
 - i. If yes, what topics are topics that were covered? _____
5. Yearly Income
 - a. Under 2,000 euro
 - b. 2,001- 4,000 euro
 - c. 4,001- 6,000 euro
 - d. 6,001 – 8,000
 - e. Over 8,000
6. Marital Status
 - a. Single
 - b. Married
 - c. Divorce
 - d. Widowed
7. How many people living in your household?
 - a. 1-2
 - b. 3-4
 - c. 5-6
 - d. More than 6
8. Are you a resident of Gjakova city?
 - a. Yes
 - b. No,

- i. If no, where do you live? _____
9. Do you have a waste container in your home/shop/ both?
- Yes
 - No
10. How many bags of waste do you accumulate in a week (size of plastic garbage pack standard sample)?
- Less than 4 bags
 - 4-6 bags
 - 7- 9 bags
 - 10 or more bags
11. What percentage of your waste is organic waste?
- Less than 30%
 - 30% - 50%
 - More than 50 %
12. How often do you take out the waste?
- 1-2 times a week
 - 3-4 times a week
 - 5-6 times a week
 - Everyday
13. Where do you take the waste?
- Personal containers outside the house
 - Municipal containers within short walking distance
 - Dump it in fields
 - Burn it
14. How often is your waste collected in a week?
- Once
 - Twice
 - More than twice
 - Daily
15. Who collects the waste from home/shop/both?
- Local government
 - Local public authority
 - Neighborhood group
 - Private company
 - Don't know
16. What is your opinion of the service that you are receiving for collection of waste from your household
- Very satisfied
 - Reasonably satisfied
 - Not satisfied at all
 - Don't know
17. Do you pay for the collection of waste from your home/ shop?
- Yes
 - No
18. If yes, is the fee you pay for collecting the waste affordable?
- Yes
 - No
19. After the waste is collected from your home/shop, where is it taken?
- Landfill
 - Collecting center
 - A pit for burning

- d. I don't know
 - i. Other (specify) _____
- 20. Are you concerned about whether the final disposal is environmentally safe and acceptable?
 - a. Yes
 - b. No
 - c. Don't know
- 21. When you see waste outside your home, what do you do?
 - a. Pick it up and put it in a waste container
 - b. Nothing, continue walking.
- 22. How do you feel when you see waste laying around in the streets, rivers (e.g. the smell, the personal inconveniences it cases)?
 - a. _____

- 23. What do you think the municipality should do about the waste lying in the streets?
 - a. _____

- 24. Do you think you can reduce the waste that you generate in your home/ shop/both?
 - a. Yes
 - b. No
 - i. If yes, how?

- 25. Are there any items that you reuse from the waste?
 - a. Yes
 - b. No
 - i. If yes, please specify

- 26. Do you separate/sort the waste in your home/shop? (e.g. paper, plastic, aluminum)?
 - a. Yes
 - b. No
 - i. If not, why not?

- 27. Do you think it is important to separate the waste?
 - a. Yes
 - b. No
 - c. I don't know
- 28. If yes, why do you think recycling is important?

- 29. Which waste should be separated for recycling?
 - a. Paper
 - b. Plastic
 - c. Aluminum
 - d. Glass
 - e. Metals
 - f. Food/ Organic Compost

30. How likely are you to practice in the separation of waste if containers were implemented in your home/shop?
- Extremely unlikely
 - Unlikely
 - Neutral
 - Likely
 - Extremely likely
31. Please list the order of the statements below from 1 to 5 (1 most important, 5 least important) in regards to recycling.
- ___ Recycling helps to conserve the environment.
 - ___ Recycling reduces the amount of waste that goes to landfills.
 - ___ Recycling waste will conserve water sources.
 - ___ Recycling can help produce additional energy.
 - ___ Recycling will help produce more jobs.
32. How do you think awareness can be created among the population towards a more sustainable solid waste practices?
- _____
 - _____
33. Which of the following, if any, do you think would be the best way for you to get information about recycling?
- Television
 - Newspaper
 - SMS
 - Neighborhood meetings
 - SMS
 - Other _____
34. How do you think awareness can be created among the neighborhoods to help work together to help themselves?
- _____
 - _____



Norwegian University
of Life Sciences

Postboks 5003
NO-1432 Ås, Norway
+47 67 23 00 00
www.nmbu.no