Municipality of Hani i Elezit

PLAN FOR SUSTAINABILITY WASTE MANAGMENT IN THE MUNICIPALITY OF HANI I ELEZIT

This plan is a step by step guide for the municipality to improve waste management. The timeframe of the plan is 2012 – 2015.

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Swiss Cooperation Office Kosovo

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Swiss-Kosovan Local Governance and Decentralisation Support Programme (LOGOS)

Swiss Cooperation Office Kosovo finances the Swiss – Kosovan Local Governance and Decentralization Support Programme (LOGOS), which operates in 9 municipalities in the South Eastern part of Kosovo. The programme promotes the development of local governance and decentralization reforms in municipalities of Kosovo, thus contributing to the overall stabilization of rule of law and democratization of a multiethnic Kosovan state and society. In the first phase, LOGOS included a strong village level component, which consisted of activities with village councils and the civil society. These activities – together with the municipalities – contributed to the development of management and governance capacity at the sub-municipal level (public services) and, as a side impact, to the improvement of local infrastructure.

In the ongoing second phase, LOGOS focuses on three working areas:

1. Planning and Resources Management,
2. Administration and Public Services, and
3. Capitalization and Dissemination of Experiences.

None of the municipalities in Kosovo had drafted a plan on waste management. The municipality of Hani I Elezit is among the first municipalities to have a plan drafted that will help them to better collect and manage the waste produced at the municipality. The plan is a very good tool that will instruct the municipality to plan and implement an advanced system for managing waste. Further to that the plan guides the municipality on how much budget should be allocated per fiscal year to improve waste collection and transport from its households/buildings to the landfill. Additionally the plan has calculations regarding the expenses for the waste company including the tariffs that the municipality should charge the households and businesses.

Impressum: The plan was prepared by the working group of Hani i Elezit municipality led by the director of public services Rufat Shkreta under the supervision of LOGOS project, Shkipe Deda, Jim Budds and RECURA Financials (Hekuran Neziri). Additional inputs were given from Norbert Pijls, Merita Barileva and Fatime Rrahmani HELVETAS Swiss Intercooperation.

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Photo 1: Hani i Elezit

I. FOREWORD - THE MAYOR OF HANI I ELEZIT

For Hani i Elezit municipality, since the beginning of its functioning, waste management has been considered a challenge that the municipality had to face and had to find a long term solution for. The need for investments under very limited financial conditions and circumstances, the need for citizens' awareness but also the problems of legal interpretations have made this challenge to be present even today.

Based on the Law on Local Governance in Kosovo, municipalities are competent for providing and maintaining public and municipal services, including water supply, sewage, wastewater treatment and waste management. However, inconsistency of the Law on Public Enterprises and ownership of public enterprises has led to the fact that the problem of waste management rose to a higher level of review and analyses.

According to the Law on Waste, municipalities have the right to prepare their own local plans on solid waste management and to work on appropriate operational plans for a more effective way of waste collection.

Either way the engagement of municipality as an institution that would serve the citizens has never been doubted, no matter what the challenges and financial, functional or legal problems there might be.

In this regard, the preparation of a document called "Waste management" only proves the seriousness and commitment of Hani i Elezit municipality to approach this problem with its full capacity and to become the first municipality in the Republic of Kosovo that will have an inclusive document.

Harmonization of this document to the national legislation and EU guidelines makes us believe that we have succeeded in drafting a long term strategy of waste management.

A detailed concept on waste management in the town of Hani i Elezit and its rural settlements, the establishment of a functional network on waste management, the creation of a plan on waste management and financial support for public awareness programmes as well as the establishment of a public enterprise that this document foresees, is going to be the strategy of Hani i Elezit municipality for a long term management of this issue.

It took time to finalize this document. It also required a lot of engagement and commitment of the working group of Hani i Elezit municipality which has thoroughly reviewed this issue in compliance with strategic development plans.

Our most sincere acknowledgements are addressed to our partners from the project called "Swiss-Kosovan Local Governance and Decentralization Support (LOGOS)", implemented by HELVETAS Swiss Intercooperation, and funded by the Swiss government. With their professional expertise, exchange of experiences and study trips they made it possible for the working group to draft this document.

The mayor of Hani i Elezit municipality

Rufki Suma

II. FOREWORD - THE COORDINATOR OF LOGOS

One of the first things that citizens expect from a municipality is a clean living environment. Their satisfaction about the municipality is directly related to it. That is why it should be every mayor's priority to make sure his municipality is clean. Unfortunately that is not the case yet.

The problem of waste in Kosovo has been growing steadily since the nineties. Due to changing consumption patterns the amounts and types of waste have been growing. At the same time the young municipal and regional structures have not been able to effectively and efficiently organize its collection and disposal.

Nowadays garbage litters the cities, villages and country side. In spring, just before the leafs come on the trees, you can see plastic hanging from branches along rivers. Some specialists are seriously worried that the ground water is on the point of being polluted.

It has not always been like this. The older generations will remember a clean Kosovo. People used to take their own bags to the shop. People used to bring back bottles to the shops where they had bought them. That memory means that it is possible to clean Kosovo again.

When the second phase of LOGOS started in 2010 it was obvious that solid waste collection should be part of our program. I was very pleased that the mayor of Hani i Elezit positively responded to our offer to assist in this field.

During the last 2 years we have assisted the municipality in drafting a solid waste management plan. First we determined the amounts, types and locations of waste produced. Then we calculated how much money would be needed to make the system work sustainably. Based on both we set targets for the coming years. We finished with organizing meetings with citizens and with the municipal assembly to get their feedback and support.

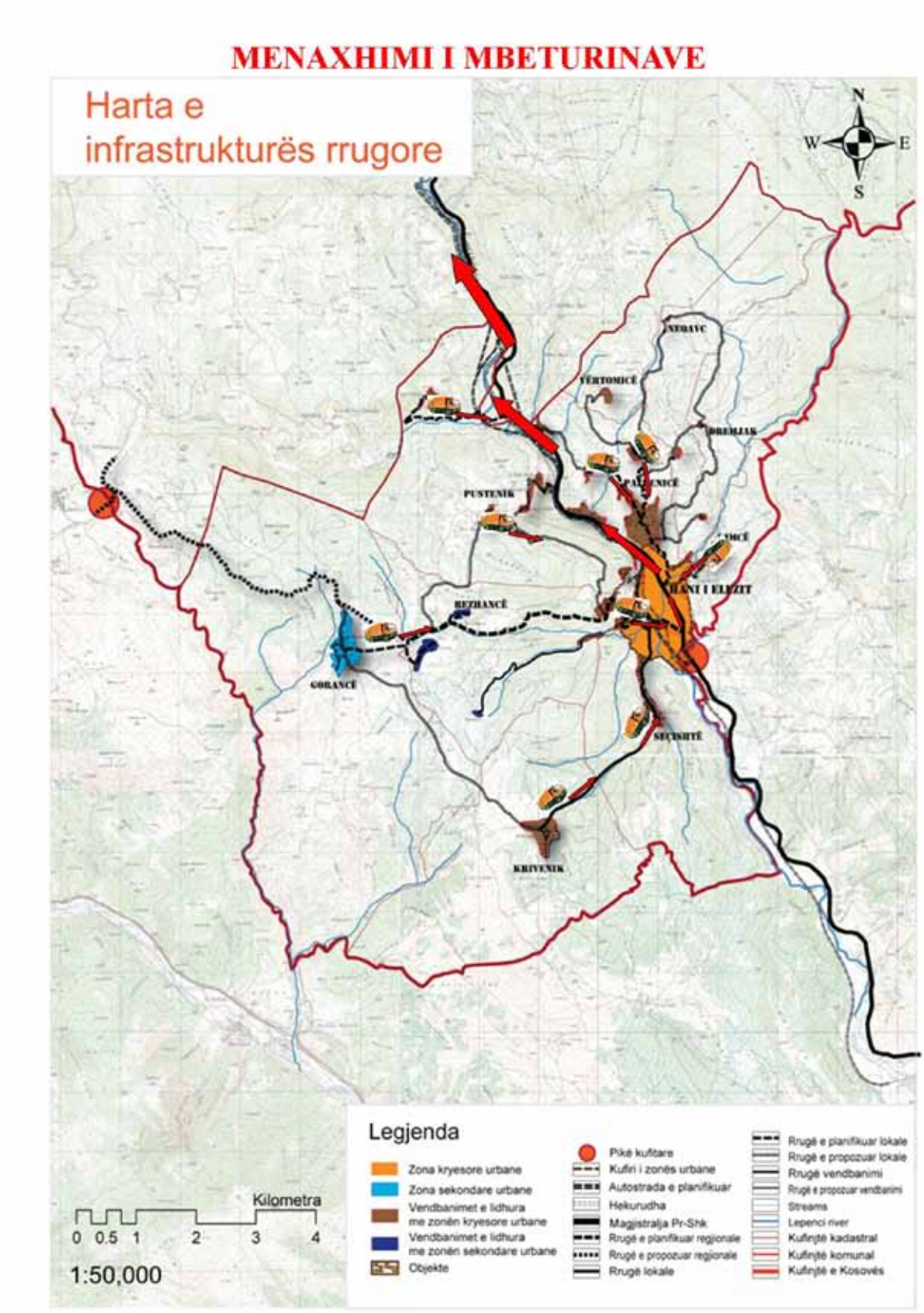
This solid waste management plan is an important step to clean the environment, but we have to realize it is also only the beginning. Fees should be collected. The municipal company should be established and managed. Investments have to be done. Citizens should change their behaviour. That is still a lot of work. But it is worth it.

It was very important for LOGOS to work closely with the municipal officials. They will have to implement the plan in the coming years. We would like to thank them all for their commitment to making Hani i Elezit a cleaner place

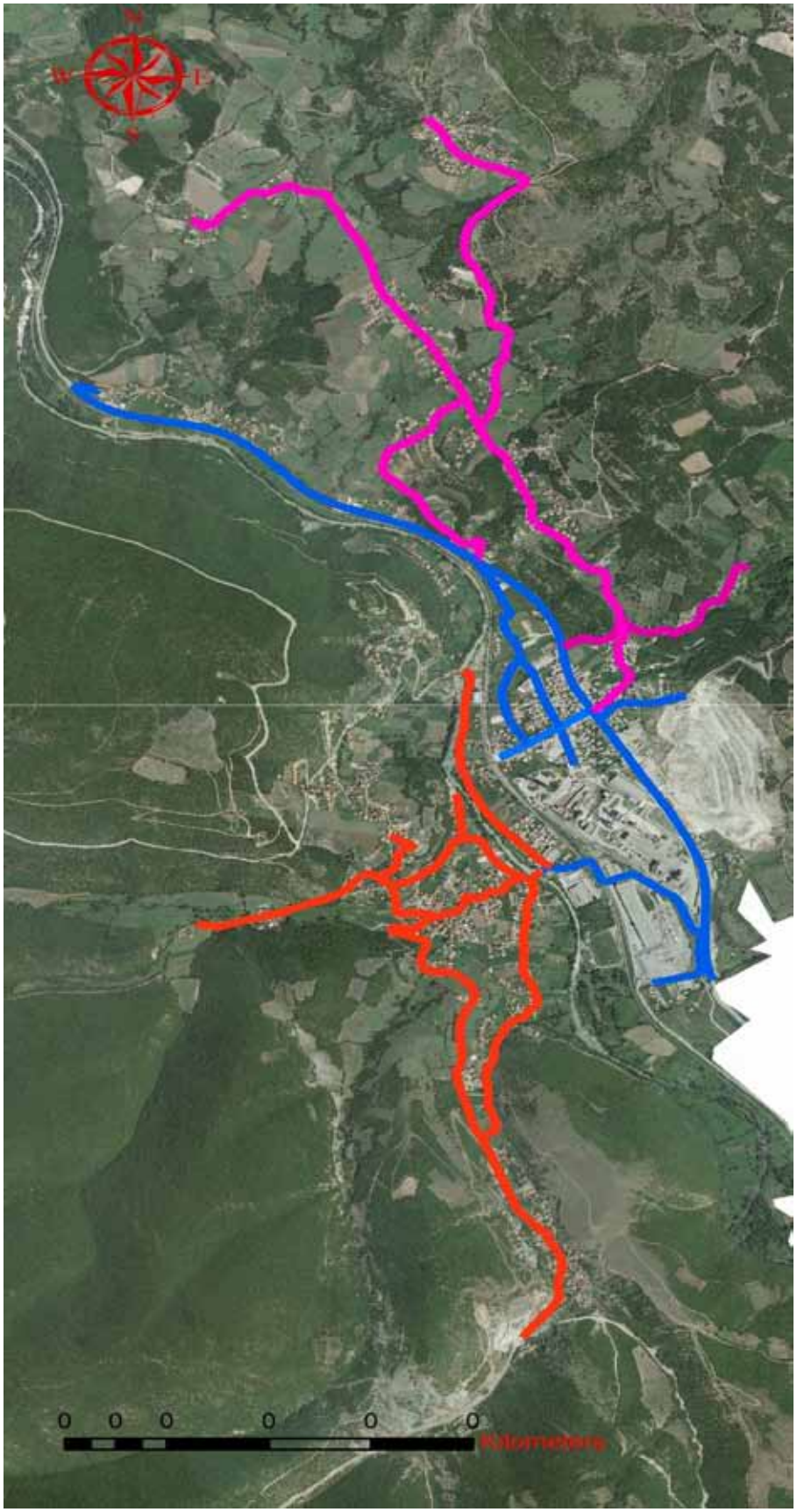
Norbert Pijls
Project Manager LOGOS Phase II

Pictures of the city with waste

The road map of the waste collection in Hani i Elezit municipality



Map 1: the road map of the waste collection in Hani i Elezit municipality



Monday 08:00-16:00
Krivenik 09:00-10:00
Seqishtë rr.Uçk-së10:00-10:30
rr.Veli Ballazhi10:30-11:00
rr.Suad Barava 11:00-11:30
Dëshmorët e Krivenikut
11:30-12:00

Tuesday 08:00-16:00
Rr. Adem Jashari 09:00-10:00
Dëshmorët e Kombit 10:00-10:30
Xhemsedin Suma 10:30-11:00
Nuri Bushi 11:00-11:30
Isa Berisha 11:30-12:00
Lagjja e Vlashve 12:00-12:30

Wednesday 08:00-16:00
Gorancë 09:00-10:30
Rezhancë 10:30-11:00
Hunel 11:00-11:15
Kollomoqe 11:15-11:30
Meliq 11:30-12:00
Brava 12:00-12:30.
Të Përndjekurit 12:30-13:00

Thursday 08:00-16:00
Fsh.Paldenicë 9:00-10:00
rr.Driton & Gafurr Loku
10:00-11:00
Elham Curri 11:00-11:30
Imri Curri 11:30-12:00
Izet Bushi 12:00-12:30
Imer Vila 12:30-13:00

Saturday 08:00-16:00
Rr.Adem Jashari 09:00-10:00
Dëshmorët e Kombit 10:00-10:30
Xhemsedin Suma 10:30-11:00
Nuri Bushi 11:00-11:30
Isa Berisha 11:30-12:00
Martirët Bushi 12:00-12:30
Hysein Suma-fsh.Dimcë
12:30=13:00

III. ABBREVIATIONS

AMK	Association of Kosovo Municipalities
BoDs	Board of Directors
EU	European Union
KEPA	Kosovo Environmental Protection Agency (MESP)
KLMC	Kosovo Landfill Management Company
MEF	Ministry of Economy and Finance
MESP	Ministry of Environment and Spatial Planning
MLGA	Ministry of Local Governance Administration
PMU	Policy and Monitoring Unit for Publicly Owned Enterprises (MEF)
POE	Public Owned Enterprise
PSP	Private Sector Participation
RWCC	Regional Waste Collection Companies
SCO	Swiss Cooperation Office
SWMP	Solid Waste Management Plan
SWA	Solid Waste Analyses
WWRO	Water and Waste Regulatory Office

IV. WASTE DEFINITIONS AND NOTIONS

Waste - any substance or object belonging to a category of waste which the holder discards or intends or is required to discard.

Waste management - means collection, transport, broking and dealing, holding, treatment, recovery and disposal of waste including supervision of such operations as well as aftercare of the disposal sites.

Waste treatment - includes physical, chemical, biological, thermal processes, including sorting, that change the characteristics of the waste in order to reduce its volume or harmful nature, facilitate its handling or enhance recycling.

Waste collection - is the systematic activity of gathering, sorting and/or mixing of waste, for the purpose of transport.

Hazardous waste - waste that has at least one of the following characteristics, as set out below: explosive; oxidizing; flammable; irritant; harmful; toxic; carcinogenic; corrosive; infectious; teratogenic; mutagenic; release toxic gases in contact with water, air or an acid; capable of yielding another 'hazardous' substance; ecotoxic.

Non-hazardous waste - is waste that does not pose any risk to the environment and human health and do not possess the characteristics of hazardous waste.

Inert waste - is waste that does not undergo any significant physical, chemical or biological transformation in the places where it is disposed. Inert waste will not dissolve burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and / or groundwater.

Municipal waste - is waste from households as well as waste from any other activity which, because of its nature or composition is similar to household waste.

Commercial waste - waste from premises used wholly or mainly for the purposes of a trade or business or for the purposes of sport, recreation, education, or entertainment but does not include household or industrial waste.

Industrial waste - is waste produced from manufacturing or industrial activities or processes, handicraft and other production activities.

Composting - is a controlled biological process used to facilitate decomposition of organic waste by micro-organisms in the presence of oxygen, the result of which is compost.

Construction and demolition waste – includes wastes produced during construction, re-modelling, reparation of individual and collective housing buildings, trade buildings etc. Main components of these wastes are: rocks, beton, bricks, ferrous components, lead components, electrical components etc.

Agriculture waste – involves wastes that are produced during different agricultural activities such as: use of pesticides, vine production, processing and production of agricultural and farming activities.

Infectious waste – involves wastes with high risk potential of infection if working or operating with them. They may harm the health of citizens and environment. This waste gets generated from hospitals and other health institutions, dead animals, butcheries etc.

Special waste – includes radioactive wastes, used containers of pressed gases, wastes that contain high concentration of toxic heavy metals (arsenic, lead etc), expired chemical products.

Chemical and pharmaceutical waste – includes chemical and pharmaceutical products within their packaging.

Incineration - thermal treatment of wastes. It is a complicated process, because the furnaces used for incineration should meet certain standards for environmental protection. It is an expensive and economically not favourable process but a needed one.

Glass waste – mainly packaging waste that may be successfully recycled.

Plastic waste – biologically not degradable wastes, mostly created for packaging purposes.

Organic waste – biologically degradable waste through aerobe or anaerobe processes. This group of wastes includes organic wastes classified as wastes from food, agricultural waste, paper etc.

Recycling – waste that is subject to any process or treatment to make it re-usable in whole or in part.

Scrap processor – Company involved in collecting recyclable materials from individual collectors or collection points. They are the 'middle men' who prepare the material for export or transport to Mill.

Collection point – Some scrap processors have established collection points throughout their respective region or municipality. These points are merely drop-off points for individual collectors. When the material has reached a certain weight, the scrap processors will remove the materials from that point and bring them to the central facility for further processing.

Mills – Also known as production facilities, these companies are not only engaged in collection of recyclable materials but also in using that material to create final products. Final products found in Kosovo are plastic brooms and brushes, aluminum fence decorations, plastic pipes and garbage bags, and egg cartons.

CHAPTER 1 - BACKGROUND

1.1. Overall waste problems in Kosovo

Waste management remains a priority issue for municipalities in Kosovo. The amount of generated waste is increasing, while existing infrastructure is inadequate and does not coincide with the EU standards. Appropriate solutions to the problems with waste management should be made. Delays in finding solutions for all types of waste have resulted in the current situation which is quite critical.

The difficulties of the waste sector in Kosovo are multi-fold. There is insufficient knowledge about waste management practices and trends that are currently being applied in the EU; public and employees' insufficient education regarding the waste prevention, reduction and recycling in companies which are in charge of waste management; creation of many illegal landfills of municipal waste; lack of organization and classification system for the separation of municipal waste; partial implementation of environmental legislation on waste; lack of data and information system for waste management; inadequate implementation of "the polluter pays" principle; difficulties in the process of regionalization of companies and infrastructure, etc.

The responsible institutions for waste management include the Ministry of Environment and Spatial Planning (MESP), Kosovo Environmental Protection Agency (KEPA), Kosovo Landfill Management Company (KLMC), regional, municipal and private waste collection companies and the municipalities.

Waste collection companies which are licensed are responsible for the collection, transport, and discharge of the waste to the sanitary landfills, and KLMC is responsible for managing the licensed sanitary landfill sites. Waste collection sector in municipalities is of a public character, and it is implemented by seven regional companies, which are licensed to collect and transport waste in all municipalities throughout Kosovo, as well as one central company (KLMC) that is licensed to manage the landfills in Kosovo.

According to the Waste Law, municipalities are entitled to prepare their local solid waste management plans (WMP). The WMPs would enable municipalities to make a proper operational plan, and make the waste collection more effective. The separation of waste would also be introduced. On one side that would create extra income for the waste collection company, and on the other side it would reduce the amount of waste that is dumped in the landfill.

Hani i Elezit is among the first municipalities in Kosovo that have drafted the waste management plan with technical support from Swiss Government through HELVETAS Swiss Intercooperation.

1.2. Regulatory framework

1.2.1. Harmonisation of EU directives with national legislation

Kosovo is advanced in terms of transposition in the waste sector, and the Government plans to apply for accession to the Basel Convention sometime in the near future. Although transposition of the waste directives is somewhat advanced, practical implementation is at an early stage.

Harmonization of EU Directives with national legislation is estimated to be 95% for the Directive on waste (2006/12/EC), 85% for the Directive on hazardous waste (91/689/EC), 88% for the Directive on packaging waste (94/62/EC), 77% for the Directive on landfills (99/31/EC), and 69% for the Directive on the incineration of waste (2000/76/EC).

1.2.2. Key National legislation

The basic law that regulates waste management in Kosovo is the OFFICIAL GAZETTE OF THE REPUBLIC OF KOSOVA / No. 17 / 29 JUNE 2012, PRISTINA. The Waste Law regulates types and classification of wastes; planning of waste management; conditions for waste collection, transport, treatment, storage and disposal; rights, duties and responsibilities of legal and physical persons involved in waste management; as well as conditions and procedures for waste management permits. It also defines principles for managing specific waste streams, sets basic provisions for waste incineration, etc.

Preparations of the “Local plans for waste management”, are obligatory by the Law no.04/L-060 on waste under chapter IV waste management planning documents, Article 8.

Article 10 of this Law, specifies the content of the document, and it emphasizes that the local plan has to be in accordance with the waste management strategic plan for Kosovo from article 8, of this Law. The waste management strategic plan for Kosovo has been drafted for the period 2011 - 2021 but as of yet not adopted.

In addition to the waste law, the following administrative instructions regulate specific areas on waste management:

- Administration of used oil waste
- Construction and demolition waste
- Batteries and used accumulators
- Administration of end life vehicles and their wastes
- Packaging and packaging wastes
- Proprietor and operator competences for waste treatment;
- Administration of landfills
- Administration of hazardous waste
- Conditions for the location for landfills
- Administration of electric and electronic equipment wastes
- Liquidation of waste from medical products
- Administration of medical waste
- Import, export and transit of waste
- Administration of PCBs and PCTs
- Mandatory fines
- Removal of waste from public areas

The law on amending and supplementing the Law no. 03/L-087 on publicly owned enterprises provides a legal framework for the ownership of publicly owned enterprises and for their corporate governance in accordance with internationally recognized principles of corporate governance for publicly owned enterprises.

Law no. 03/L-087 on publicly owned enterprises article 11.3 “municipalities may have publicly owned local enterprises. However, they must previously draft and submit to the Government a letter of justification and operational and financial sustainability. Then, the government shall issue a decision authorizing its establishment”.

1.3. Description of national waste policy and prevailing principles

1.3.1. Kosovo environmental strategy 2011 – 2020 - draft

The Environmental Strategy for Kosovo represents an important document for overall long term development in Kosovo. The strategy is drafted through interministerial cooperation and with the support of other institutions. Regarding the waste management, the strategy indicates the following strategic orientations:

- Establishment of the infrastructure for waste management.
- Gradual reduction of waste at the source before disposal and energetic uses of the waste or reuse.
- Gradual reduction of waste hazard.
- Gradual increase of inclusion of the population in the waste treatment system.
- Strategic priorities for waste administration:
- Completing of legal norms for waste management based on EU Directives.
- Establishment of infrastructure for waste management.
- Establishment of central database and information on state of waste management.
- Drafting of programs for construction of infrastructure premises in harmony with spatial plans.
- Arrangement and closing of old landfills.
- Use of existing industrial capacities for treatment of hazardous waste.

1.3.2. National environmental action plan (NEAP) 2011-2015 – draft

NEAP is designed for a five year period. Due to this reason, only the short term (1 – 2 years) and mid term (3 – 5 years) projects are selected.

NEAP foresees a list of priority projects regarding waste issues in Kosovo, as follows:

- Improving management of solid waste
- Construction of facilities for waste treatment
- Improving management of municipal waste landfills
- Support waste recycling with subsidies
- Increased billing for waste collection
- Rehabilitation of areas polluted by waste
- Strategies for use of building materials and recycling of used building materials

1.3.3. Kosovo strategic plan for waste management 2011 – 2011 - draft

Pursuant to the Waste Law, the Ministry of Environment and Spatial Planning, in cooperation with other ministries and competent authorities drafted the strategic plan for waste management. The strategic plan includes the 10 years period of time, and will be approved by the Kosovo Government. This plan should be reviewed at least every five years.

The Strategic Plan for waste management contains:

- Assessment of the current state of waste management;
- Main goals and measures for waste management;
- Measures for hazardous waste management;
- Directions for waste treatment in line with environmental protection principles and administrative principles;
- Directions for waste disposal;
- Directions for ensuring favourable technical conditions, to meet the goals for waste administration.

1.3.4. Extract from municipal development plan of Hani i Elezit municipality 2010 – 2020

One of the objectives of Goal 8 (Public services in all settlements) of the municipal development plan is to: *establish waste management system-promote waste reduction programmes (recycling).*

Regarding the current status of waste management: *"The waste management is currently considered as a challenge which municipality has been facing with. There is a need for investment for citizens' awareness. Presently there is a private company that collects the waste. The waste is being transported to Gjilan regional dumpsite" with recommendations to: collect the waste in all settlements of the municipality (recycling); establish the organization of community for community awareness; support for improving waste disposal systems in rural settlements.*

The recommendations deriving from the plan are:

- Municipality shall draft a detailed concept on waste management in town and rural settlements of Hani i Elezit
- Municipality shall establish a functional waste collection network, and determine the place for transit depot
- The regional waste depot is in Gjilan municipality.
- Municipality in cooperation with public companies for waste collection shall promote waste reduction (selection of waste, recycling)).

Extract from municipal development plan of Hani i Elezit municipality 2010 – 2020

Strategy 5: Create a waste management system

It is needed to create a waste management plan and financial support for programs of public awareness, as well as to establish a public company. The strategy proposes the following actions::

- Establish a public company for waste management campaigns
- Decrease the amount of waste (recycling) in cooperation with community
- Support NGOs in organizing recycling awareness campaigns
- Provide waste containers in all settlements or neighborhoods
- Create a system for waste collection in rural areas.
- Find a location for industrial waste
- Determine a location for construction waste .

1.4. Steps for preparation of the local plan on solid waste management

The structure for preparation of the local plan on solid waste management is based on the national legislation (No.04/L-060); the guidelines for preparing a plan on waste management by the European Commission, environment DG (2003); as well as the GIZ report.[1]

Main elements in a waste management plan are:

- Background
- Status part
- Action plan and Implementation

Status part and planning part are the key elements of the plan. The status report should present an overview of the current situation.

For the preparation of a status report, it is necessary to collect data and to provide general knowledge on waste sources, amounts, types, collection, transportation, treatment and disposal of waste, as well as the structure of the current waste management system.

When a status report is being drafted, the first step is data collection and information. The second step is describing the current system, including identification of areas for improvement in the system. The third step is evaluating the performance of the current waste management system.

Both the status and the planning part may be organized according to the “sources of waste” (different waste generating activities in the relevant area), waste streams (materials of waste composition) and waste management options (e.g. collection, sorting, treatment and disposal).

By identifying the “sources of waste” it is possible to direct awareness campaigns and waste prevention programs towards the sources with the highest volumes of waste.

Basically, information and data are needed on waste amounts for:

- the sources of waste;
- the waste streams;
- the waste management processes: generation, collection, transportation, sorting, treatment and disposal.

By addressing the waste streams, it is possible to obtain information on the quantity and composition of different waste streams.

According to the EC guidelines, when a local or regional plan on waste management is being prepared, it is relevant to include a detailed description of the waste management system in place. A description of the local system for municipal waste may include the following examples, as a minimum:

- Collection equipment (bins, vehicles)
- Transportation schemes (transport logistics, location of treatment plants)
- Transfer/sorting facilities
- Types of treatment plants (e.g. landfills, incineration plants)
- Recycling activities - run by both, authorities and private organizations
- Payment schemes
- Regulation (national as well as local)

1 GIZ report, Household waste analysis in Prishtina, Kosovo (2009)

The waste management system in the planning period - action plan

The planning part should be prepared on the basis of the requirements in national legislation, and in line with EU, the status part and relevant assumptions for projecting future developments.

The waste management system in the planning period - action plan

When the analyses of the current situation and the expected future developments on waste quantities have been made and the objectives agreed upon, it should be decided how these objectives can be met. This may be considered as the core of the planning process.

The time horizon for the plan depends on a number of factors and consists of 2 parts; the first part which is for immediate action, and the second part which is a long-term perspective.

Implementation - After the adoption of the waste management plan, its orientations are put into practice either via legislation and regulation, negotiations with the industry, or information to the general public.

CHAPTER 2 - STATUS PART

In order to prepare the waste status report, one of the main key elements of the waste management plan is the necessity of data collection and provision of the general knowledge on waste sources, amounts, types, collection, transportation, treatment and disposal of waste, and the structure of the current waste management system.

The first step during preparation of the status report was to collect data and information; the second step was to describe the current system including identification of areas for improvement in the system; and the third step was to evaluate the performance of the current waste management system.

A field assessment was conducted in the municipality of Hani Elezit, during February and March, 2011, on defining the waste profile, determination of the sources of waste, waste streams and quantities.

The collection team collected the sample units from the predetermined areas on the day of the same timing collection following the recommendations on solid waste assessment tool

The population was not informed about the field assessment to avoid their waste generating behaviour. .

2.1. Waste sampling collection and sorting procedures

Collection of samples in Hani i Elezit municipality, February - March 2011.

The municipality had no waste containers during the collection of waste samples. The households were using the plastic bags for their garbage, and at certain days of the week (usually three times per week) they put their garbage in front of their houses. In multiple dwellings, and rural areas, there were no standard recipients, thus the waste was collected from several families using a 1.1 m3 container. Every collected sample was tagged with a unique identification reference code.

Photo 2: collection of waste samples in Hani Elezit municipality, March-April 2011; photo taken by Shkipe Deda

Separation of samples corresponding to the groups of materials was done using the Sorting Guide from the SWA Tool methodology: 12 primary waste categories and 23 secondary waste categories, which are presented in the table below.

Table 1: waste assessment groups of materials

Primary waste category	Secondary waste category
Organic	Biodegradable kitchen/canteen waste
	Biodegradable garden/park waste
Wood	Wood
Paper and cardboard	Paper/card packaging
	Paper/card, non-packaging
Plastics	Packaging
	Non-packaging
Dense plastic bottles/jars (packaging	
Glass	Glass container packaging, clear
	Glass container packaging, brown
	Glass container packaging, other
	Miscellaneous non-packaging, glass
Textiles	Textiles
Metals	Packaging
	Non-packaging
Hazardous household waste	Batteries/accumulators
	Miscellaneous hazardous waste
Complex products	Composite/complex packaging
	Composite/complex, non-packaging
	Waste electrical and electronic equipment (WEEE)
Inert	Inert
Other categories	Other categories
Fines	10 mm sieved fraction


METALI
(HEKUR)

Photo 3: separation of waste fractions, Hani i Elezit municipality, March-April 2011, photo taken by Shkipe Deda

2.2. Assessment and waste analyses in Hani i Elezit municipality

2.2.1. Waste analyses in Hani i Elezit municipality

Based on different waste sources, the urban area was divided in 4 collection points in municipality of Hani i Elezit, including 2 villages. Therefore, the total number of collection points/locations was 5. Collections were repeated twice (one waste sample during the day of the week, and one at the weekend). Total net weight of the samples was 872.5 kg..

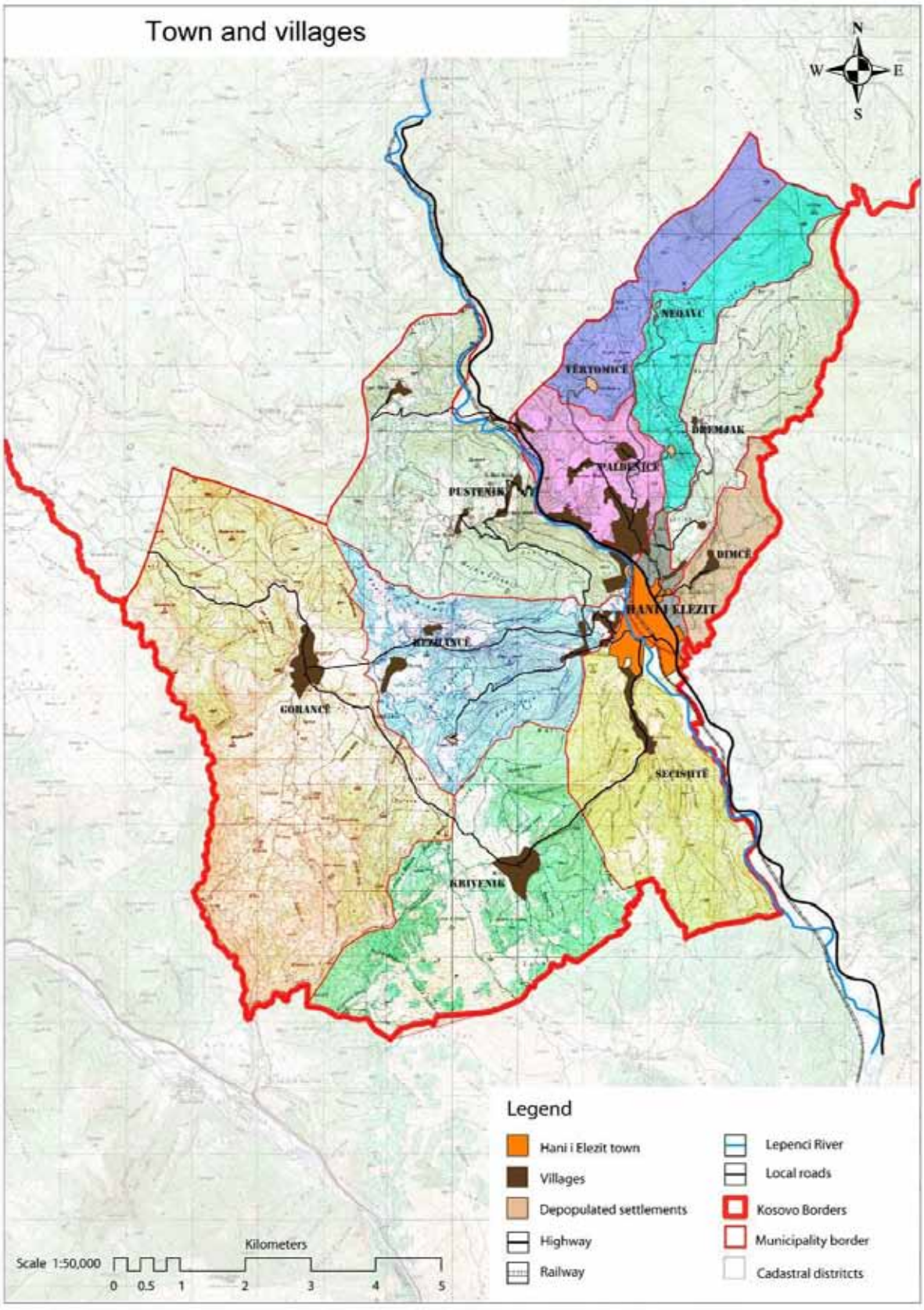
Location 1. Suburban area, Seqishte; A There are 1,074 inhabitants, partly working in agriculture and farming. The waste collection is done weekly. The waste collection company did not provide containers, so un-standardized containers are used instead.

Location 2. Rural area, Paldenice; Paldenice Paldenice is a village that mainly practices farming and agriculture. The waste collation is on weekly bases. There are 1,876 inhabitants. The waste collection company did not provide containers, so un-standardized containers are used instead.

Location 3. City area, collective building; The waste collection is done every two days. No containers are used, plastic bag – door to door system is functioning.

Location 4. *s. City area; individual houses and the health house. T*he waste collection is done every two days. No containers are used, plastic bag – door to door system is functioning.

Location 5. *City area; individual houses. .*



Map 3: Cadastral zoning of Hani i Elezit municipality, source municipal development plan 2010 - 2025

2.2.2. Presentation of the sample results in Hani i Elezit

In the following table the details of the waste samples per kg are presented in the specific collection points in Hani i Elezit, including the number of households and approximate number of inhabitants.

The amount of collected samples is presented in kg.

Weight of samples (Kg)								
Municipality	HANI I ELEZIT							
Location	No. of households	No. of inhabitants	Frequency of collection	14.03.2011	15.03.2011	17.03.2011	21.03.2011	Average (Kg)
Seqishte	11	57	weekly	144.5			92.1	118.3
Paldenice	9	46	weekly		83.7		77.6	80.7
Hani i Elezit 1	40	240	every two days			117.9	110.7	114.3
Hani i Elezit 2	na	na	every two days		25.5		15.2	20.4
Hani i Elezit 3	40	240	every two days	98.1		107.2		102.7

Table 2: Selected locations in Hani i Elezit and weight sampling

2.3. Waste composition in Hani i Elezit

The analyses of waste composition on waste samples in five locations of Hani i Elezit resulted that 35 % of the total amount of waste is organic. Almost 20 % belongs to hygienic products (diapers), followed by fines and plastic. The amount of two recycable fractions, metals and glass is less than 2%.

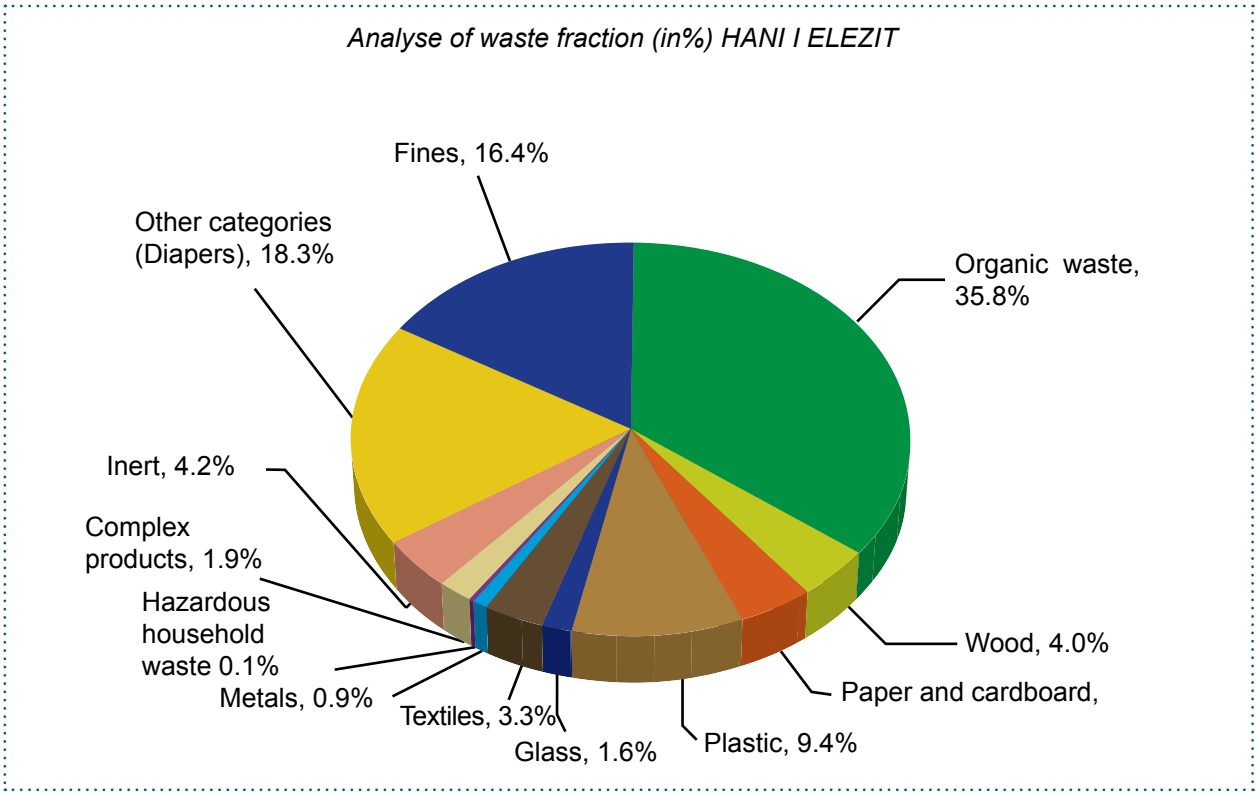


Figure 1: Analyze of waste fractioning (in %) in Hani i Elezit, the research done in March-April, 2011

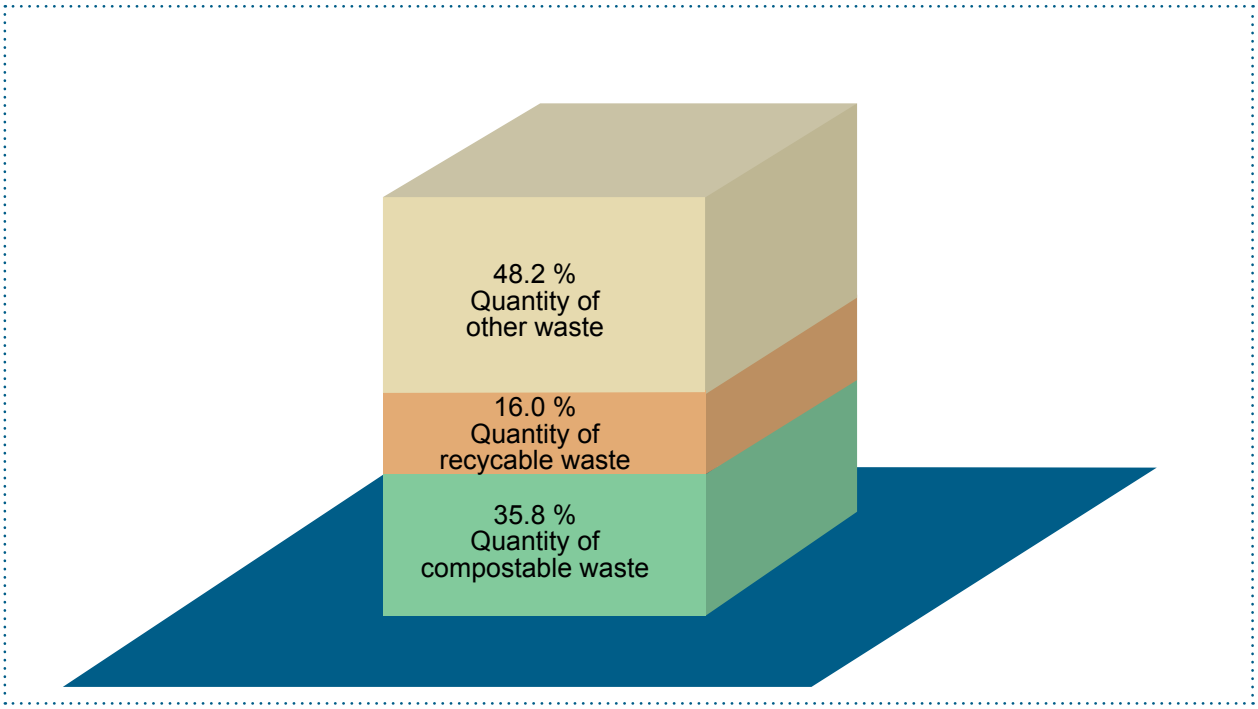


Figure 2: Quantities of municipal solid waste, recyclables and compostables in Hani i Elezit, the research done in March-April, 2011

2.4. Conclusions of the field survey

The Results of the waste assessment which indicate that from the total amount of collected waste samples, the amount that is recyclable and divided into waste fractions (paper, plastic and glass) and compostable organic waste fractions represents 51 % in Hani i Elezit. Furthermore, there are indications that the amount of waste to be transferred to the landfill can be substantially reduced by waste separation, and introducing composting process in rural areas.

Low percentage of metal in household waste (less than 2%) results due to the fact that aluminum cans are widely being collected (although not in an organized way) since it is an income generating activity.

During our waste analyzes a significant large amount of diapers was noticed (up to 18%). It has a large volume as well, and no possibility for recycling, reuse or reduce.

Current waste collection systems in Hani i Elezit do not cover all villages with their services.

One of major obstacles for current and future waste collection companies in Hani i Elezit is the 60 km distance from this municipality to the regional landfill, which increases their cost of operations.

2.5. Waste treatment

One cannot speak about a real waste treatment in Kosovo. To date initiatives and efforts have been made without any results. The waste treatment in Kosovo is on its very first steps of development, and at the level of self initiatives, but with its symbolic and importance. Waste treatment is a complicated and expensive process. It impacts significantly on the decrease of the quantity of waste remained for landfill. No large projects that deal with waste treatment are undergoing in Kosovo, but there are evident small private initiatives in few localities, and that is encouraging for the future. In this case we may emphasize plastic recycling in Rahovec and Mitrovicë, paper collection in Xërxë, Lipjan, Fushë Kosovë, Prizren, Prishtinë; glass bottles in Pejë; glass collection and recycling in Therandë; different metals in many centres in Kosovo (Prishtinë, Ferizaj, Lipjan, Mitrovicë, Gjakovë, Pejë, Janjevë, Podujevë etc). Recently there are evidenced initiatives for composting in a few centres in Kosovo, emphasizing the centre in Klinë.

Photo 4: the waste treatment and disposal at municiality, 2011

2.6. Waste disposal

Hani i Elezit is eligible to use the waste transfer station in Ferizaj. Its total capacity is 50,000 m3; monthly capacity is 2,500 tons. Transfer station serves population of 210,120 respectively municipalities: Ferizaj, Shtimje, Kaçanik and Hani i Elezit.

CHAPTER 3 - PLANNING PART

3.1. Waste generation and composition

The current waste collection services offered by the existing company cover around 25% of households in the municipality and 80% of the territory. There is no official record on the quantity and composition of the collected waste. However, a sampling analysis was conducted and data on waste collection was gathered. Based on the gathered data, it was possible to estimate the total amount of waste generation in Hani i Elezit and the composition of the collected waste, which is necessary for planning an integrated solid waste management system.

Considered samples in the analysis are for the collections during March of 2011 in Seqishte, Paldenice and Hani i Elezit. The averages of the collections were divided by the number of inhabitants served, and the daily waste generation per person in the municipality was estimated to be 0.25 kg/person. The following table presents estimations of waste generation levels used in this report.

Waste Generation	
Population	9,389
Households	1,449
Estimated daily waste generation per person (kg)	0.25
Estimated monthly waste per person (kg)	7.49
Estimated monthly waste generation (Tons)	70
Estimated yealy waste feneration (Tons)	856

The estimated yearly waste generation in Hani i Elezit is 856 Tons. The information about the composition of this amount is crucial to the waste treatment planning process. Based on the available industries, and other business activities in the municipality, waste composition is significantly different. The following table shows the waste composition in Hani i Elezit in categories as defined by the Ministry of Environment and Spatial Planning and compared them to the figures for Kosovo reported in the “Current waste situation in Kosovo, 2008” published by Kosovo Agency for Environment Protection.

Waste Composition		
Category	Kosovë	Hani i Elezit
Organic waste (kitchen and garden)	35.30%	35.78%
Glass	21%	11.82%
Wood	11.00%	14.18%
Plastic waste (bottles and packaging)	9.40%	9.37%
Metals	9.30%	11.14%
Teksties	8.20%	13.51%
Paper and cardboard	4.60%	4.11%
Hazardous household waste	1.20%	0.09%

3.2. Plan on solid waste management

This section presents a comprehensive action plan for what the municipality intends to do, and how they intend to do it. Assumptions and results on fee calculations, and sustainability of the managing company are provided in the financial analysis in annex 1.

3.2.1 Basic Assumptions

1. The Municipality has chosen to establish a publicly owned enterprise as a management mechanism for waste removal.
2. The municipality will provide door to door collection service for all households and businesses, using 120 L plastic waste bins for collection.
3. The municipality will provide such waste bins, one for each household or business.
4. Waste treatment (recycling will not be considered in the initial service (see objective 1.3)).
5. Collected waste will be sent to Ferizaj transfer station, until and unless a more suitable site is established (the municipality is not considering a separate landfill at the moment).

Overall Goal

The municipality will insure that waste removal services are rendered to a minimum of 90 % of the population (residential and business) within 3 years from initiation date of the plan in 2012.

Objectives

1.1 The municipality will acquire and provide the necessary vehicles and containers as described in the financial analysis (see financial analysis annex to the plan).

1.2 The municipality will establish a funding mechanism and collection procedure to insure funds are available and proper collections are made.

1.3 The municipality will pursue a course to include recycling, or other efficiency measures, as the economic conditions warrant.

1.4 The municipality will institute a citizen's awareness program to insure maximum understanding of the goals and objectives (see citizen's awareness annex 2).

Milestones

For objective 1.1 - The municipality will acquire and provide the necessary vehicles and containers as described in the financial analysis (annex 2).

- **Milestone 1.1.1** - Identification of a funding source for capital expenses will be completed and reported to municipal assembly by December, 2011.
- **Milestone 1.1.2** - A schedule for the distribution of containers over 2012 will be approved by the municipal assembly by December 2011 based on the recommendations of the working group. (Each traunch for equipment of a plan for acquiring trucks and containers will be approved by the town's assembly in the budget provisions for next year).
- **Milestone 1.1.3 -** The municipality will develop and annually review a route structure, which will be made as a part of the plan, and a schedule for collection will be adjusted as per population growth and/or shifts. In accordance with milestone 1.4.1 such information shall be regularly transmitted to the citizens.

- **Milestone 1.1.4** - The municipality, in addition to the regular scheduling noted in 1.1.3 above, shall also set forth a schedule for irregular trash collection (for oversized materials and hazardous waste) and promulgate that to all collection households and businesses. A separate arrangement with the disposal area will be made to accommodate such waste.
- **Milestone 1.1.5** - The municipal assembly shall pass an ordinance prohibiting the transfer of solid waste materials by other than licensed entities, and provide an approval system for special removal for items such as construction debris, with licensed contractors.

For objective 1.2 - The municipality will establish a funding mechanism and collection procedures to insure funds are available and proper collections are made.

- **Milestone 1.2.1 -** The municipal assembly will annually review the fee for solid waste collection during the budget approval, as need determines, and in concert with the Law of the Republic of Kosovo.
- **Milestone 1.2.2** - The municipal assembly will annually determine the distribution of funding, in accordance with the needs of the public company and the budget of the municipality, during the budget approval process.
- **Milestone 1.2.3** - The municipal assembly will establish a mechanism for the collection of fees for waste collection in order to assure complete collection, as defined by the overall goal to be implemented not later than June, 2012.
- **Milestone 1.2.4 -** The municipal assembly will set up a special fund for the holding and dispersal of funds for the repair, maintenance and replacement of equipment, the source of which is included in the annual solid waste that will be implemented simultaneously with the plan initiation

For objective 1.3 - The municipality will pursue a course to include recycling as the economic conditions warrant.

- **Milestone 1.3.1 -** The mayor will annually appoint a committee that will investigate the latest recycling progress in the Republic of Kosovo, and report to the municipal assembly on the viability and desirability of engaging in such activity.
- **Milestone 1.3.2 -** The recycling review committee will report prior to the submission of the budget for the upcoming year, what action the municipality should undertake toward upgraded treatment of solid waste, insuring that it is in the best environmental interests as well as fiscally sound for the municipal budget.
- **Milestone 1.3.3 -** In order to promote efficiency, the mayor shall annually appoint an individual or committee to investigate the fiscal and operational potential for inter-municipal cooperation in solid waste collection, treatment or disposal. The individual or committee will report not later than three months before each budget preparation cycle.

For objective 1.4 - The municipality will institute citizens' awareness program to insure maximum understanding of the goals and objectives.

- **Milestone 1.4.1 -** The municipality, under the auspices of the mayor's office and public relations office, shall develop and implement a citizens' awareness program to maximize the citizens' understanding of the waste management improvements which should be implemented at least two months in advance of the plan implementation.
- **Milestone 1.4.2 -** The mayor shall propose members of citizens' advisory council, to be approved by the municipal assembly, with a minimum of one representative from each inhabited area, who will report regularly on the effectiveness of the solid waste management program and offer suggestions for improvement.

- **Milestone 1.4.3 -** As part of the citizens' awareness program, the municipality will take and encourage measures to reduce the amount of packaging in biodegradable waste and packaging materials from municipality waste. (e.g. incentives to shop owners to reduce the use of plastic bags).

Note: Plan on waste management has annexes attached to it and these are Annex 1 – Financial plan, which contains detailed plans on costs and benefits that the municipality should have in order to establish a municipal public enterprise foreseen by this plan, and Annex 2 – which offers suggestions for the municipality on how to implement the citizens' awareness campaign.

ANNEX 1 - OPERATIONAL PLANNING AND FI NANCIAL ANALYSIS

This section presents an analysis of providing waste management services in Hani i Elezit municipality. Projections of the financial performance are used as a basis for the tariffs for family households and businesses, and to analyze sustainability of managing the newly created municipal company.

It has been decided that the waste management services in the municipality will be provided by a newly established municipal public company.

The cost of providing waste management services comprises of the operational costs and the costs of any potential investments required for providing such a service. Since a public company will be providing the service, no profit margin is assumed. However, generated revenues should cover the operational costs. This report aims to provide guidance on the level of fees necessarily to be collected in order to cover the cost of providing the service.

Based on the available data and proposed operational plan on waste management, the following are the main points of the operational plan considered:

- A “door to door” collection service combined with a public collection method using 1 technological vehicle to collect waste stored in plastic waste bins (120L) and containers (1100L).
- Collected waste to be sent to the transfer station in Ferizaj, and later to the regional landfill in Gjilan.

Decisive factors

The major factors of waste management system decided by the working groups which directly affect the level of tariffs and costs are listed below:

- “Door to door” service provided for each household using plastic waste bins of 120L
- Public collection method using containers of 1100L
- Disposal at transfer station in Ferizaj
- Waste treatment not considered at this stage
- Waste collection services provided by a municipal public company
- Service should be aimed to be provided to all households

A “door to door” collection service, using plastic waste bins of sizes 120L, is provided by the company or municipality. The number of plastic waste bins provided for each household is determined by using the estimated waste generation per household, and the capacity of the bin provided. A waste bin is assumed to carry a capacity of 56 kg of waste. The allocation of the number of plastic bins to each village is conducted using the estimated number of households in the village. Except villages of Dramjak and Pustenik, all other places will be served since the beginning of the operations of the company.

The following table presents an estimated waste generation in kg/day for each of the locations, the number of plastic bins that should be provided to these locations using the above-mentioned criteria, and frequency.

Waste Production, Planned Waste Bins and Containers and Frequency

Location	Inhabit-ants	Esti-mated house-holds	Waste generation (kg/day)	Points of collection	No. of containters	Plastic bins(140L)
Hani i Elezit	3,749	578	936.27	10	19	679
Frequency						Twice per week
Dimce	215	33	53.58	-	-	33
Dramjak	49	7	12.35	-	-	
Gorance	957	147	239.02	-	-	147
Krivenik	306	47	76.41	-	-	47
Necavc	-	-	-		-	-
Paldenice	1,750	270	437.03	4	8	270
Pustenik	612	94	152.82	-	-	
Rezhance	749	115	187.07	-	-	115
Secishte (Lagja e Re)	1,002	154	250.20	4	8	154
Frequency						Tonce per week
Total	9,389	1,445	2,345	18	35	1,445

The method of collection is flexible and individual private containers can be served, if requested, by using the technological vehicle. The technological vehicle will also transfer the collected waste to the transfer site in Ferizaj. The following map presents the route schedule and timing of the collections.

Operational and investment costs

The operational costs of the waste management company comprise of a number of different components. Each of the components is described below and assumptions used in calculations are presented.

Route schedule and transportation

The most important cost, which should be properly managed, is the transportation cost. An average of the distance is assumed and calculations include the cost of fuel and lubricant for the vehicles. The distance data is taken from the map in the previous page.

The following table presents the approximate monthly distances calculated.

The following table presents the approximate monthly distances calculated.

Route Schedule Distance Calculations

km	Municipal routing	To transfer station	Total
Monday	33.00	40.00	73.00
Tuesday	8.00	40.00	48.00
Wednesday	20.00	0.00	20.00
Thursday	14.00	40.00	54.00
Friday	0.00	0.00	0.00
Saturday	8.00	40.00	48.00
Sunday	0.00	0.00	0.00
Daily Average	11.86	22.86	34.71
Monthly Average	355.71	685.71	1041.43

The approximate monthly distance of 1,041.43 km is increased to 1,200 km travelled monthly by the technological vehicle in order to account for the fuel consumed while collecting waste at the respective locations (for estimation reasons). The technological vehicle is assumed to consume 40 liters per 100 km. Around 1.5 liters of lubricant are assumed to be used by the vehicle, while the price per liter of fuel is assumed at 1.35 Euros.

The following table presents the approximation of transportation costs using the above-mentioned assumptions.

Transportation Costs

Materials	Litres	Price per unit	Monthly total
Fuel (1000km transport and collection time/ 40 litres per 100 km)	480	€ 1.35	€ 648
Lubricant (1.5 litre per 100 km)	18	€ 3.50	63
Total Monthly Amount (EUR)			711

Maintenance and depreciation

One of the major components of the costs includes the maintenance and depreciation of vehicles and bins necessary to provide waste management services.

The following table presents the necessary assets and the recurring expenditures from these assets.

Maintenance and purchase of trucks

	FS type	Unit	Price	Total annual amount (EUR)
Waste collection truck (8-10 ton)	Asset	1	30,000	30,000
Maintenance (7%)	Expense		2,100	2,100
Depreciation (5%)	Expense		1,500	1,500

The rates for maintenance and depreciation are commonly used rates by reports on waste management systems.

Another component of the costs is the provision of plastic waste bins to each of the households and containers by the waste management company. This includes the cost of purchase of bins, containers, their maintenance, depreciation and lime used for disinfection when collecting waste from these locations. The cost of plastic bags to be provided for the containers is also calculated in this scenario. The following table presents an estimate of these operational costs.

Waste Collection from Waste Collection Points

	FS type	Unit	Price	Total annual amount (EUR)
Lime for disinfection	Costs			200
Purchase of containers (1100 L)	Aset	35	200	7000
Purchase of waste bins (120 L)	Aset	1,445	25	36,125
Maintenance of containers (7%))	Costs		490	490
Depreciation of containers (5%)	Costs		350	350
Maintenance of waste bins (2%)	Costs		723	723
Depreciation of waste bins (20%)	Costs		7,225	7,225
Purchase of plastic bags (120L)	Costs	75,140	0.08	6,011

Labor

Labor is another cost component. It is supposed that employees will collect waste twice a week in Hani i Elezit and once a week in other locations, while cleaning and maintaining waste bins and streets nearby. They will then transport the waste daily to the waste transfer station in Ferizaj.

The following table presents the estimated labor costs necessary for providing the service.

Labor costs (*gross)	**Unit**	**Monthly** wage	**Total**
Manager salary	1	400	400
Finance and accounting salary	1	350	350
Collection (1x3)	1	350	350
Cleaning	6	275	1,650
Total monthly amount (EUR)			3,300

The total staff costs are estimated to be €1,850 monthly.

Landfill/dumpsite fees

The municipality does not have a landfill or transfer station for waste, therefore, the company will have to pay a fee for disposal of waste. The fee is assumed to be 6.5 Euros per ton of waste. This is estimated to cost the company around 5,500 Euros annually, based on the estimated amounts of annual waste generated by the municipality.

Summary of operating costs

The total annual operating costs of the company are presented in the table below.

Cost	Amount
Labor	22,200
Depreciation	9,075
Lime for disinfection	200
Purchases of plastic bags	6,011
Water	224
Electricity	1,120
Maintenance	3,313
Fuel	8,532
Landfill expenses	5,563
Post, telephone, internet	600
Rent	-
Banking fees	200
Others	1,200
Total annual operating costs	58,238

Summary of investment costs

Considering that a new company has been established to provide the services, initial investments in fixed assets are required as a start-up cost. However, the assumption here is that the facilities like land and buildings will be provided by the municipality at no cost. Hence investment is only required for vehicles, machinery and other operational assets. Total investment costs are presented below.

Assets	Units	Price	Total
Waste collection truck (8-10 tones)	1	30,000	30,000
Purchase of containers (1100L)	35	200	7,000
Purchase of waste bins (120L)	1,445	25	36,125
Computers	2	1,000	2,000
Other office equipment		3,000	3,000
Total investment costs			78,125

The municipality has already purchased a waste collection truck, and Caritas has donated 390 waste bins as presented in the following.

Already invested	Units	Price	Total
Waste collection truck (8-10 tones)	1	30,000	30,000
Waste bins (120L)	390	25	9,750

Hence, the start-up public company will need the following list of investments to be fully operational as expected..

To be invested	Units	Price	Total
Purchase of containers (1100L)	35	200	7,000
Purchase of waste bins (120L)	1,055	25	26,375
Computers	2	1,000	2,000
Other office equipment	-	3,000	3,000
Total necessary investment			38,375

Municipal tariffs for waste management services

The objective of the waste management company is to establish a fee structure. This would enable a self-sustainable system by covering the operational costs of providing the services, and allowing that the amounts surpassing this level be used to improve the service to the citizens. The problems faced currently are two-fold. First, only 25% of the households use the service and second, only 20% of them pay for the service. The municipality aims at providing the service to 90% of the households and businesses within the next five years.

However, the service fee level is calculated using the full costs as if the service had been provided to all households and businesses. The service fee was differentiated between families, businesses and institutions. A general rule used in similar studies suggests for a cost allocation among these categories of 65% to families, 32% to businesses and 3% to institutions.

The following table presents the results of the allocation of operational costs among the proposed categories and calculation of the fee based on the number of constituents per category

Service costs

		Cost coverage		
		Monthly fee	Annual fee	Totat operating costs
		EUR	EUR	Total
Type of service	**Allocation**	**Consultent nr.**		**58,237.63**
Families	65%	1,445	2.18	26.20	37,854.46
Bussines	32%	219	7.09	85.10	18,636.04
Institutions	3%	1	145.59	1,747.13	1747.13

The minimum fee to cover the operational costs for families should not be under €2.18, while for businesses should not be under €7.09.

Costs may be significantly increasing by serving all the citizens. These costs could be managed if the collection frequency is properly managed. Therefore, the proposal for Hani i Elezit citizens is to offer them a twice a week service, whereas to other locations once a week service.

This should also be very flexible and subject to changes when the real data of waste collection is available for the managing company. Waste bins' location points should be flexible for the new data. The collection route and timetable will be advertised through media and campaigns aiming the inhabitants of urban area as well as those of rural ones. Waste that cannot be collected by using waste bins, such as large wooden parts, electronic devices, dangerous waste etc., will be advertised for a while. This type of waste will be collected by using the technology vehicle instead of the small open one.

Total staff cost has been estimated at 2,900 € monthly. This includes 5 employees who are needed to drive both collection vehicles.

Transportation

The most important cost that needs to be managed properly is the transportation cost. Offering the service to all households will significantly increase the transportation cost, especially to some rural places which are difficult to reach by collection vehicles. An average cost per distance has been assumed and the calculations include fuel and oil costs for the vehicles.

Collection distance and frequency

Route	Average distance (km)	Monthly distance (km)
Route 1 (twice a week)		
Hani i Elezit	15	520
Up to the transfer station in Ferizaj	20	347
Route 2 (once a week)		
West		
HE -Rezhance - Gorance	15	130
HE - Pustenik	5	43
HE - Secishte - Krivenik	15	130
East		
Hani i Elezit - Dimce	1.8	16
HE - Paldenice- Dremjak	8.5	74
Necavc		
Up to the transfer station in Ferizaj	20	173
Total		1,433

The approximate monthly distance of 1,433 km has increased to 2,000 km for both technological vehicles and small open vehicles by travelling monthly, in order to calculate the consumed fuel until the waste collection is performed in appropriate places. The technological vehicle is assumed to run 2,000 km per month and to consume 40 liters per 100 km, whereas the small vehicle is assumed to run 800 km per month and consume 15 liters per 100 km. Around 65 liters of fuel are assumed to be used by both vehicles. Hence, the price for a liter of fuel is supposed to be 1.2 euro.

The table below presents the estimates of transportation costs by using the before mentioned suggestions.

Material	Litre	Price per unit	Monthly total
Fuel (1000km + 1000km collection and transportation/ 40 litres	800	1.2	960
Fuel – small vehicle ((800km)/15l per 100 km	120	1.2	144
Oil(1.5 litres for 100 km for both vehicles)	64.47	3.5	226
Total monthly payment			1,330

Planning outline

The proposed fees based on the minimum fees to cover the operational costs if the service was provided to all households and businesses are €3 for households and €9 for businesses. Factors taken into consideration when planning for revenue generation and operational costs are the following:

1. Number of households and businesses in the municipality (according to the municipal development plan)
2. The projected annual growth rate of population and businesses (taken to be 1.1% considering migration)
3. Number of households and businesses currently projected to be provided with the service (Initially set at 80%, but can be changed accordingly)
4. Fees differentiated amongst two categories and collection of these fees (fees can be further differentiated amongst businesses or households in the future, but should always cover the allocated operational costs)
5. Annual projected increase in operational costs (taken to be 5%)
6. Initial operational costs in the first year estimated from the calculated operational costs, if the service was provided to all households and businesses
7. Projected financing requirements to cover the operational costs of providing the service
8. Cost of the collection route according to the most recent plan by the staff from municipality (refer to the map included in this document)
9. Costs include the purchasing cost of plastic bags for 120L waste bins

Simple financial model was developed in order to account the collection rates (receivables) of the invoices that are normally expected and for the change in fees during the years. The following initial estimations for the fees and percentage of coverage and collections are made:

	2013	2014	2015
Monthly fee for households	3	3	3
Monthly fee for businesses	9	9	9
% of households served	90%	90%	90%
% of fees collected	60%	60%	60%

Introduction of the new publicly established company is expected to increase the collections to 60%, while the number of households served will be around 90% with the business entities being served completely.

The model differentiates the cash and non-cash payments in the expense side, in order to account for the cash financing gap that the company will incur in the first three years of operation.

According to the above planning factors, the following is the planned financial performance of the company during its first year of operations.

Financial performance - 1st Year

	Existing	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	2013	2014	2015
Total households	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,449	1,465	1,481
Total businesses	219	219	219	219	219	219	219	219	219	219	219	219	219	219	221	224
Nr. households served	858	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,304	1,318	1,333
Nr. businesses served	219	219	219	219	219	219	219	219	219	219	219	219	219	219	221	224
Total fees receivables		5,883	5,883	5,883	5,883	5,883	5,883	5,883	5,883	5,883	5,883	5,883	5,883	70,600	71,376	90,843
Total fees collected		3,676	3,676	3,676	3,676	3,676	3,676	3,676	3,676	3,676	3,676	3,676	3,676	44,107	44,573	56,253
Labor		1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850	22,200	23,310	24,476
Depreciation		756	756	756	756	756	756	756	756	756	756	756	756	9,075	9,529	10,005
Lime for disinfection		17	17	17	17	17	17	17	17	17	17	17	17	200	210	221
Purchases of plastic bags		501	501	501	501	501	501	501	501	501	501	501	501	6,011	6,312	6,627
Water		19	19	19	19	19	19	19	19	19	19	19	19	224	235	247
Electricity		93	93	93	93	93	93	93	93	93	93	93	93	1,120	1,176	1,235
Maintenance		276	276	276	276	276	276	276	276	276	276	276	276	3,313	3,478	3,652

Fuel		711	711	711	711	711	711	711	711	711	711	711	711	8,532	8,959	9,407
Landfill expenses		464	464	464	464	464	464	464	464	464	464	464	464	5,563	5,841	6,133
Post, telephone, internet		50	50	50	50	50	50	50	50	50	50	50	50	600	630	662
Rent		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Banking fees		17	17	17	17	17	17	17	17	17	17	17	17	200	210	221
Others		100	100	100	100	100	100	100	100	100	100	100	100	1,200	1,260	1,323
Total operational costs		4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	4,753	57,038	59,890	62,884
Total cash payments		3,997	3,997	3,997	3,997	3,997	3,997	3,997	3,997	3,997	3,997	3,997	3,997	47,963	50,361	52,879
Cash financing gap		(321)	(321)	(321)	(321)	(321)	321)	(321)	(321)	(321)	(321)	(321)	(321)	(3,856)	(5,788)	3,374

According to the above table, there will be around 4,000 Euros necessary to cover the expected cash payments of the municipal company during its initial year of operations.

The following table presents the financial performance of the company during its first three years of operations, as expected, given the current situation and planning schemes.

	2013	2014	2015
Total households	1449	1465	1481
Total businesses	219	221	224
Nr. Households served	-1304	- 1318	1333
Nr. Businesses served	219	221	224
Total fees receivables	- 70,600	71,376	900,843
Total fees collected	44,107	44,573	56,253
Labor	22,200	23,310	24,476
Depreciation lime for disinfection	9,075	9,529	10,005
Purchases of plastic bags	6,011	6,312	6,627
Water	224	235	247
Electricity	1,120	1,176	1,235
Maintenance	3,313	3,478	3,652
Fuel	8,532	8,959	9,407
Landfill expenses	5,563	5,841	6,133
Post, telephone, internet	600	630	662
Rent			
Banking fees	200	210	221
Others	1,200	1,260	1,323
Total operational costs	57,038	59,890	62,884
Total cash payments	47,963	50,361	52,879
Cash financing gap	(3856)	(5,788)	(3,374)

Municipality staff is presently discussing the ways on current cost decrease of finding new financing sources aiming at covering the real investments and operational needs of the compani,

Summary

According to the financial performance 2013-2015 plan, the company is going to be financially sustainable in its third year of operations. The following table presents the total investment and operational financing needs of the company at this point in time.

	Current
Investment needs	38,375
1100 L containers (35x200EUR)	7,000
120 L waste bins (1055x25EUR)	26,375
Computers (2*1000EUR)	2,000
Office equipment	3,000
Cash financing gap for operations in 2013	3,856
Cash financing gap for operations in 2014	5,788
Total financing requirements 2013-2015	48,019
Donations	
LOGOS for waste bins	33,375
Further financing needs	14,644

The municipal staff is currently discussing ways on cutting the current costs, or finding new financing sources, to cover the current investment and operational needs of the company.

ANNEX 2 – RECYCLING CONSIDERATIONS

Although recycling has not been considered in the initial service, the municipality may run a course in order to include one component for waste treatment, such as the economic conditions on waste management services in the future. Committee/individuals that will be assigned by the mayor for the recycling review will have to prepare reports on the realization and will to be engaged in such activities. This annex presents the summary of changes related to costs and certain fees if the managing company will start including the recycling component in its initial services.

Operational structure of waste collection and disposal based on such an agreement like “door to door” service combined with public collection method uses 65 containers (1100L) and 1,445 plastic waste bins (140L) in order to separate recyclable materials in paper, glass, metal, plastic and textile. The company will do its best in trying to find the most useful methods for recyclable waste transfer for municipal or regional companies. Waste separation into resources will be considered as a real stimulation for new recycling businesses which are to be opened in the municipality. Around 8 tons of weekly waste has been estimated to be recyclable, when the service is offered to all the citizens.

Annual operational costs have been estimated as increasing for around 1,600 Euro because of the depreciation and maintenance for the additional number of containers that need to be purchased. Investment costs are for 13,000 Euro higher because of the additional cost of 65 containers (1100L). Loaded fees for households are estimated to be the same. By adding the assumptions that 20% of recyclable materials may be sold with the market price of these elements, will on average decrease waste landfill costs for nearly 8%, the managing company may expect an increase of around 12,000 Euro from recycling revenues in the first year, an increase of around 40,000 Euro if 70% of recycled materials have been traded. Under such circumstances, managing company may become self-sustainable the latest on the third year of its operations.

The table below presents differences in the main factors when the recycling component has been added to the waste management services.

	Without recycling	**With recycling**
Assumptions	Door to door collection transfer station-regional landfill	Door to door and public collection transfer station-regional landfill
Investment costs	78,900 €	91,900 €
Operationa costs	72,377 €	73,937 €
Household fees	3 €	3 €
Business fees	9 €	9 €
External financing demands	87,676 €	61,361 €
Self-sustainability	4 years	3 years

Photos below present good practices during a waste separation procedure in Slovenia (taken during a study visit in April, 2011).

Photo 5, study visit on good practices of waste separation in Slovenia, April 2011, photo taken by Shkipe Deda


MARIBOR


AZBESTNI
ODPADKI

ANNEX 3 - OUTLINE FOR CITIZENS' AWARENESS PROGRAM

It is recommended that the municipality should seek a professional advertising firm to help with the design, slogans, logos and content of citizens' awareness program. With that caveat in mind, the plan for the citizens' awareness program as noted in milestone #1.4.1 of objective #1.4 of the plan on waste management should include, at a minimum, the following elements.

1. A series of public fora, to present the plan, get citizen feedback, and after making whatever modifications deemed necessary, to introduce the completed plan to the public. Each forum should include:

- A simple power point presentation that adequately describes the plan and its impact on the householder/business person.
- Ample members of the local government to answer questions and take suggestions regarding the plan.
- An emphasis on citizens' responsibilities to make the plan work
- Sufficient hand out materials, to allow those not attending the fora, to read and understand the vital plan elements.

2. An advertising campaign with at a minimum:

- A logo, theme and slogan that clearly identifies the program.
- A series of posters for use around the municipality, in the schools and other institutions.
- A series of brochures, possibly calendars, etc, that will provide the specifics of collection days and citizens' requirements.
- A program directed at school children, designed to inform and gain cooperation among the younger generations.
- Design and usage of public service announcements (local TV/radio or other media) designed to engage support and provide the details necessary for compliance with the systems demands.
- Adequate coverage by local print media.

3. Development and implementation of citizens' action committee that will provide feedback and recommendations to the local government and publicly owned enterprises. Key elements to such a committee include:

- At least one member from each inhabited area.
- A regular reporting process that allows evaluation and modification of service as necessary.
- Insure that meetings are held regularly, but not in intrusive time frames. (perhaps once a quarter, although for the first six months monthly might be better)

Photo 6, example of public awareness campaign in Kosova

ANNEX 4 - RESPONSIBILITIES AND DUTIES OF MUNICIPALITIES

LAW no.04/L-060 ON WASTE

Article 15

1. Responsibilities and duties of municipalities to implement the provisions of this law are:

1.1. establishment of waste management system under the principle of waste management hierarchies for their territory, the development of local plans for waste management under Article 10 of this Law and the creation of conditions and care for its implementation;

1.2. municipal plan for waste management should be harmonized with national plan;

1.3. municipalities shall be responsible for implementation of municipal plan;

1.4. drafting annual report on waste management. Annual report shall be submitted to the Ministry, till 31 march of the following year;

1.5. regulates the responsibilities and obligations to perform services for waste management, implement them and organize the waste management in their territory;

1.6. maintenance and custody on the public information system and reporting on works performed as prescribed by this law, as well as other legal acts on waste management;

1.7. application of procurement procedures, are followed on selection of licensed persons for collection, gathering, storage and transportation of solid waste, municipal, voluminous wastes, from construction and demolition of buildings and commercial buildings within their territory;

1.8. municipality determines fees and manner for collection of funds for municipality services;

1.9. identification of contaminated sites on their territory and develop projects for their rehabilitation, which includes notes about the location, spatial geometric features, type of pollution and waste quantity, the deadlines for improving the situation and other important data for the implementation of projects.

2. Two or more municipalities, where is their interest, they may make agreements on waste management.

3. Municipality exercises supervision and control measures and waste management activities in its territory, through the municipal inspectors on environment.

4. At the request of the Ministry, provide the required information and recommendations regarding waste management.

5. The municipality is obliged to provide care and remove wastes that are dumped in public spaces or in waste dumps outside its territory.

6. If the responsible person for waste management in accordance with legal responsibility does not care for thrown wastes by unknown person, municipality will take the responsibility for those wastes.

7. To implement the provisions of this Law, the municipalities issue the sub acts which regulate the functioning of the municipal competent authority and standards for waste management services.

8. Without prejudice to paragraph 1. to 7. of this Article, the performance of public services and the provision of public infrastructure in the field of municipal waste management within the exclusive competence of municipalities in accordance with the Law on Local Self-Government.

Article 34

Municipal waste management

1. Municipal waste should be collected, treated and managed in accordance with the provisions of this Law and other legal provisions that regulate local activities.

2. Municipalities, by sub-legal act, determine the terms and conditions for waste management of public spaces.

3. Municipal waste mixed with hazardous waste should be divided when there is economic account, otherwise will be considered as hazardous waste.

4. Households and other municipal waste producers are obliged to throw their garbage in certain places for collection of municipal wastes, whereas hazardous wastes shall be divided and delivered at designated places for them.

5. Municipalities are obliged to organize system for collection, and voluminous collected waste.

6. Households and other municipal waste producers are obliged to do separation of waste types, defined by the competent authority for the purpose of treating and recycling them.

7. Municipalities with special act regulate and condition the manner of collection system, separation, processing and recycling, waste collection schedule, type, number and manner of distribution and deployment of containers for garbage, maintenance of places where garbage is collected and the manner of transporting wastes.

8. Municipal waste management by municipalities will be done through special contracts with one or more public or private operators who shall be licensed persons for waste management.

9. Two or more municipalities with the agreement under Article 15 paragraph 2.of this Law, can determine the rights and obligations associated with providing waste management conditions, the use of storage facilities ,for waste processing and storage of waste, the rights and obligations of public companies for waste management, the manner of making decisions in cases of complaints on specific issues dealing with waste management, and other issues important to the organization and management of waste.

ANNEX 5 – TIMETABLE OF THE COLLECTION FOR CITY AND VILLAGES AT MUNICIPALITY

REPUBLIKA E KOSOVËS
REPUBLIC OF KOSOVA

KOMUNA HANI I ELEZIT

ORARI I MBLEDHJES SË MBETURINAVE

E Hënë 08:00-16:00

Krivenik	**09:00 - 10:00**
Rr. UÇK	**10:00 - 10:30**
Rr. Veli Ballazhi	**10:30 - 11:00**
Rr. Suad Barava	**11:00 - 11:30**
Rr. Dëshmorët e Krivenikut	**11:30 - 12:00**

E Enjte 08:00-16:00

Paldenicë	**09:00 - 10:00**
Rr. Driton & Gafurr Loku	**10:00 - 11:00**
Rr. Elham Curri	**11:00 - 11:30**
Rr. Imri Curri	**11:30 - 12:00**
Rr. Izet Bushi	**12:00 - 12:30**
Rr. Imer Vila	**12:30 - 13:00**
Rr. Të Përndjekurit	**12:30 - 13:00**

E Martë 08:00-16:00

Rr. Adem Jashari	**09:00 - 10:00**
Rr. Dëshmorët e Kombit	**10:00 - 10:30**
Rr. Xhemsedin Suma	**10:30 - 11:00**
Rr. Nuri Bushi	**11:00 - 11:30**
Rr. Isa Berisha	**11:30 - 12:00**
Lagjja e Vlashve	**12:00 - 12:30**

E Shtunë 08:00-16:00

Rr. Adem Jashari	**09:00 - 10:00**
Rr. Dëshmorët e Kombit	**10:00 - 10:30**
Rr. Xhemsedin Suma	**10:30 - 11:00**
Rr. Nuri Bushi	**11:00 - 11:30**
Rr. Isa Berisha	**11:30 - 12:00**
Rr. Martirët Bushi	**12:00 - 12:30**
Rr. Hysein Suma	**12:30 - 13:00**

E Mërkurë 08:00-16:00

Gorancë	**09:00 - 10:30**
Rezhancë	**10:30 -11:00**
Hunel	**11:00 - 11:15**
Kollomoqe	**11:15 - 11:30**
Meliq	**11:30 - 12:00**
Brava	**12:00 - 12:30**
Rr. Të Përndjekurit	**12:30 - 13:00**

MOS HUDHNI
Gjëra të zjarrta

Donated by:

Schweizerische Eidgenossenschaft
Confédération suisse
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Confederaziun svizra

Swiss Cooperation Office Kosovo

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HELVETAS Swiss Intercooperation | KOSOVO

ANNEX 6 -CITIZEN'S AWARENESS CAMPAIGN

REFERENCE MATERIALS

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2.Analysis of Organization and the Functioning of Municipal Public Services, Waste Management and Energy Efficiency, Association of Kosovo Municipalities and GIZ

3.EC Methodology for the Analysis of Solid Waste (SWA-Tool) 2004, User Version

4.Determination of Municipal Waste Composition 2009, GTZ

5.Municipal Development Plan 2010-2025, April 2011, Municipality of Hani i Elezit, Directorate of Urbanism, Environment and Cadastre

6.Analysis of Waste Composition using sampling method (in Excel) 2011, LOGOS Report

7.Raporti per waste profile 2011, LOGOS Report

8.Questionnaire for Hani i Elezit 2010, LOGOS Report

9.WWRO Annual Report, 2010

10.Kosovo's recycling industry report 2011, UBO Consulting

11.Kosovo Environmental Strategy 2011 – 2020 – draft

12.National Environmental Action Plan (NEAP) 2011-2015 – draft

13.Kosovo Strategic Plan for Waste management 2011 – 2011 – draft

14.State of Environment 2010 – Draft, Kosovo Environmental Protection Agency

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