



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Agjencia Zvicerane për Zhvillim
dhe Bashkëpunim SDC



NARRATIVE REPORT

FINAL

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)	Contract-no: C- 021/2019
--	-----------------------------

Reporting Period: April, 2020



Urban Research Institute

Rr, Asim Vokshi
Nd. 14, H. 11, Ap. 56,
Tirane, Albania
www.uri.org.al

(this page is left blank intentionally)

TABLE OF CONTENTS

0. EXECUTIVE SUMMARY	1
0.1. EXECUTIVE SUMMARY (ALB)	1
0.2. EXECUTIVE SUMMARY (ENG)	XV
1. PREFACE	1
2. INTRODUCTION	1
3. CURRENT MSW MANAGEMENT IN THE SHKODËR-LEZHË WASTE AREA	2
3.1. BRIEF DESCRIPTION OF THE SHKODËR-LEZHË WASTE AREA	2
3.2. POPULATION	5
4. EVALUATION OF THE POTENTIAL FOR WASTE REDUCTION THROUGH RECYCLING AND COMPOSTING	6
4.1. WASTE MANAGEMENT SERVICE	7
4.2. WASTE GENERATION	7
4.3. WASTE AMOUNT AND COMPOSITION	10
4.4. WASTE REDUCTION THROUGH COMPOSTING AND RECYCLING ACTIONS	11
4.4.1. <i>Waste Reduction Based on National Strategic Objectives for 2023</i>	13
4.4.2. <i>Waste reduction actions</i>	14
4.4.3. <i>Reduction of biodegradable waste</i>	15
4.4.4. <i>Waste treated by composting</i>	23
4.4.5. <i>Reduction of dry-recyclable waste</i>	25
5. INSTITUTIONAL AND ORGANIZATIONAL ASPECT OF THE REGIONAL SCHEME	29
5.1. MASTERPLAN VISION FOR IMMSW IN SHKODËR – LEZHË WASTE AREA	29
6. INSTITUTIONAL OPTIONS FOR THE OPERATIONALIZATION OF THE REGIONAL SCHEME	31
6.1. CURRENT SITUATION OF INSTITUTIONAL AND ORGANIZATIONAL OPTION OF THE REGIONAL SCHEME	31
6.1.1. <i>Existing contractual arrangements of current institutional and organizational options of the regional scheme</i>	33
6.1.2. <i>Common interest of municipalities and central government to adopt changes of current institutional and organizational and opting for options of regional scheme</i>	34
6.2. STRUCTURE FOR RECOMMENDED INSTITUTIONAL CONTEXT AND ALLOCATION OF RESPONSIBILITIES OF STAKEHOLDERS UNDER A REGIONAL SCHEME FRAMEWORK	35
6.3. RESPONSIBILITIES OF MAIN STAKEHOLDERS	36
6.3.1. <i>Responsibilities of Decision-Making Level</i>	36
6.3.2. <i>Responsibilities of Steering – Monitoring Board Level</i>	37
6.3.3. <i>Responsibilities of Management Level - Entity of Joint Competence</i> –	38
6.4. RISK ASSESSMENT OF THE INSTITUTIONAL OPTION AND APPROACH TO ADDRESS	40

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

6.5.	INTER-MUNICIPAL AGREEMENT, THE INSTRUMENTS FOR ACHIEVING STRUCTURE OF THE RECOMMENDED INSTITUTIONAL FRAMEWORK	44
7.	SCENARIOS FOR MANAGEMENT OF MSW AT REGIONAL SCALE FOR SHKODËR – LEZHË WMZ	45
7.1.	SCENARIO 0: IMPROVEMENT OF CURRENT SITUATION	45
7.1.1.	<i>Cost of MSW collection, transportation, disposal and treatment for Malësia e Madhe and Kurbin ...</i>	<i>47</i>
7.1.2.	<i>Cost of MSW collection, transportation, disposal and treatment for Malësia e Madhe</i>	<i>49</i>
7.1.3.	<i>Cost of MSW collection, transportation, disposal and treatment to Bushat landfill as compared to current disposal site, Kurbin</i>	<i>53</i>
7.1.4.	<i>Measures to improve implementation of Scenario 0</i>	<i>57</i>
7.2.	SCENARIO 1: ESTABLISHMENT OF INITIAL REGIONAL SCHEME BASICS	58
7.2.1.	<i>Cost analysis of Scenario 1 for Malësia e Madhe</i>	<i>61</i>
7.2.2.	<i>Cost analysis of Scenario 1 for Kurbin Municipality</i>	<i>64</i>
7.2.3.	<i>Involvement of Private Sector as Institutional Options for the management of regional scheme considering current “Scenario 0”</i>	<i>68</i>
7.2.4.	<i>Recommendations for the Municipalities of Malësia Madhe and Kurbin in the sight of the regional dimension</i>	<i>69</i>
7.2.5.	<i>Implementation and Operational Phases of the Regional Scheme</i>	<i>70</i>
7.2.6.	<i>Steps to implement construction of the Transfer Station of Malësia e Madhe</i>	<i>0</i>
7.3.	SCENARIO 2: ESTABLISHMENT OF AN INTEGRAL REGIONAL SCHEME	1
7.3.1.	<i>Option 1: Transformation of “Ndërkomunale Sh.A”:</i>	<i>1</i>
7.3.2.	<i>Option 2: Creation of Entity of Joint Competence for the entire regional infrastructure</i>	<i>4</i>
7.3.3.	<i>Comparative analysis for the proposed Options of Scenario 2</i>	<i>6</i>
8.	LEGAL FRAMEWORK FOR ESTABLISHMENT OF AN ENTITY OF JOINT COMPETENCE FOR THE MANAGEMENT OF REGIONAL SCHEME OF SHKODËR – LEZHË WMZ	8
8.1.	ROADMAP FOR THE ESTABLISHMENT OF THE INTER-MUNICIPAL JOINT STOCK COMPANY	12
8.2.	BASIC FINANCIAL RELATION BETWEEN JSC AND MEMBER MUNICIPALITIES	13
9.	ESTIMATION OF REGIONAL SCALE INVOLVEMENT OF PRIVATE SECTOR	13
	ANNEX 1: IMPLEMENTATION PLAN FOR THE OPERATIONALIZATION OF THE SHKODËR – LEZHË REGIONAL SCHEME	21
	ANNEX 2: SUMMARIZED GRAPHICAL PRESENTATION OF STEPS FOR THE CONSTRUCTION OF TS IN MALËSIA MADHE AND KURBIN	22

LIST OF TABLES

Table 1: Total population in the Shkodër - Lezhë WMZ.....	5
Table 2: Designation of MSW as compared to the amount generated (ton/year) in the Shkodër - Lezhë Waste Area 8	
Table 3: Waste management of MSW in Shkodër - Lezhë WMZ, 2019 (tonnes/year)	9
Table 4: Composition of MSW by three main categories, biodegradable, recyclable and no value waste, 2019 (ton/year).....	10
Table 5: Waste reduction for 2023 based on national strategic objectives.....	13
Table 6: Basic instructions for developing home composting	17
Table 7: Basic instructions for developing home composting.....	19
Table 8: Basic instructions for developing Small scale composting	20
Table 9: Technical details of centralized composting.....	24
Table 10: Household affordability to pay, full system tariff, 2026-2042	30
Table 11: Summary of benefits of all stakeholders to adopt changes for the management of MSW in the Shkodër - Lezhë WMZ	34
Table 12: Allocation of responsibilities between stakeholder's levels	39
Table 13: Risk categories and level of impact.....	41
Table 14: Total MSW collected, 2019	49
Table 15: Total MSW generated and collected, 2019.....	50
Table 16: Total MSW generated and collected, 2025, Malësi e Madhe	50
Table 17: Transportation distance of each itinerary to landfill and back to the Parking lot	51
Table 18: Summary collection, transportation, disposal and treatment of MSW relevant to the disposal site and as compared to the current costs. Malësia e Madhe	51
Table 19: Comparative analysis of capital and operational costs for both alternatives, Malësia Madhe as of 2025 ..	52
Table 20: Total MSW collected, 2019	53
Table 21: Total MSW generated, 2019.....	54
Table 22: : Total MSW generated and collected, 2025, Kurbin.....	54
Table 23: Transportation distance of each itinerary to landfill and back to the Parking lot	55
Table 24: Summary collection, transportation, disposal and treatment of MSW relevant to the disposal site and as compared to the current costs. Kurbin	55
Table 25: Analytical comparative operational costs for both alternatives.....	55
Table 26: Waste collection data projection for Malësia Madhe, 2025.....	62
Table 27: Projection of waste transportation data, Malësia Madhe, 2025.....	62
Table 28: Total cost for the management of MSW with a TS, scenario 1, option 1, Malësia e Madhe,	63
Table 29: Cost analysis comparison of most effective options (Option 2 of Scenario 0 and Scenario 1), Malësia e Madhe.....	64
Table 30: Waste collection data, Kurbin 2025	65
Table 31: Waste transportation data, Kurbin 2025.....	65
Table 32: Total cost of waste management with TS, Scenario 1, Kurbin	66
Table 33: Cost analysis comparison of most effective options (Option 2 of Scenario 0 and Scenario 1), Kurbin.....	67
Table 34: Comparison of proposed institutional formats of JSC as of Options of Scenario 2	6
Table 35: Summary of the assessment of institutional options of the legal entity of joint competence for management of INWTF in a WMZ.....	11

LIST OF FIGURES

Figure 1: Waste Management Area of Shkodër – Lezhë.....	3
Figure 2: Distribution of population in area subject of the study	6
Figure 3: Examples of home composting bins.....	16
Figure 4: Examples of turned windrow composting system (small scale).....	18
Figure 5: Composting site at the village of Pestovo, Commune of Vushtri, Kosove.....	19
Figure 6: Layout of a centralized windrow composting plant.....	22
Figure 7: Waste arriving at the composting site and the final product	23
Figure 8: Typical layout of MRF plant (source website www.hse.gov.uk)	27
Figure 9: Current schematic institutional structure for the management of the landfill of Bushat.....	32
Figure 10: Recommended Institutional Structure for the Management of INWTF.....	37
Figure 11: Organizational chart of JSC according to Option 2 of Scenario 0	48
Figure 12: Organizational chart of the regional scheme according to Scenario 1	59
Figure 13: A simplified sketch of a ramp type Transfer Station	60
Figure 14: Transfer Station of Erseke, Korca WMZ	61
Figure 15: Basic equipment for the operation of the TS and long distance transportation.....	61
Figure 16: Schematic diagram of phased implementation of regional scheme for Shkodër – Lezhë WMZ.....	72
Figure 17: Tentative Schedule for the Operationalization of the Regional Scheme of Shkodër - Lezhë WMZ.....	0
Figure 18: Responsibilities, organizational structure and nature of activities of JSC according to Option 1 of scenario 1	3
Figure 19: Responsibilities, organizational structure and nature of activities of JSC according to Option 2 of scenario 1	5
Figure 20: Collection and transportation service system of MSW carried out by municipalities.....	7

LIST OF KEY NOTES

Key Note 1: Tariff Affordability.....	30
Key Note 2: Recommended Regional Structure of the Institutional Framework	43
Key Note 3: Cost demand for Malësi e Madhe and Kurbin to comply with the scenario.....	56
Key Note 4: Public Procurement	69
Key Note 5: Recommended Structure of the management entity for MSW	8
Key Note 6: Application of PPP formats.....	16
Key Note 7: Application of other private formats	17
Key Note 8: Alternative private formats	18
Key Note 9: Public owned entities versus private ones.....	20

LIST OF CHARTS

Chart 1: Percentage of population served in Shkodër – Lezhë Waste Area.....	7
Chart 2: Distribution of MSW disposal in the Shkodër - Lezhë WMZ.....	9

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

<i>Chart 3: Waste composition</i>	<i>10</i>
<i>Chart 4: Theoretical potential of reduction of biodegradable waste.....</i>	<i>12</i>
<i>Chart 5: Potential of reduction of dry recyclable waste.....</i>	<i>12</i>
<i>Chart 6: Potential amount of MSW reduction of biodegradable and dry recyclable waste, ton/year based on targets as of the draft Strategy.....</i>	<i>14</i>
<i>Chart 7: % of waste reduction versus of generation</i>	<i>14</i>

ABREVIATIONS

ATP	Affordability to Pay
AU	Administrative Units
BtF	Bashkti te Forta
DS	Disposal Site
EC	European Commission
EJC	Entity of Joint Competence
EU	European Union
HH	Households
HSI	Helvetas Swiss Intercooperation
IMA	Inter-Municipal Agreement
IMMSW	Integrated Management of Municipal Solid Waste
INWTF	Integrated Network of Waste Treatment Facilities
ISWM	Integrated Solid Waste Management
JSC	Joint Stock Company
LGU	Local Government Unit
LTDC	Limited Liability Company
LF	Landfill
LWMP	Local Waste Management Plan
KU	Kurbin
MBT	Mechanical Biological Treatment
MIE	Ministry of Infrastructure and Energy
MM	Malesia e Madhe
MRF	Material recovery Facility

MSW	Municipals Solid waste
MTE	Ministry of Tourism and Environment
NBC	National Business Centre
NSWM	National Strategy for Waste Management in Albania
PPP	Public Private Partnership
RDF	Refuse Products Derived
SC - MB	Steering Committee – Monitoring Board
SC	Service Contract
SDC-A	Swiss Development and Cooperation – Agency
TAR	Territorial and Administrative Reform
TOR	Terms of Reference
TS	Transfer Station
URI	Urban Research Institute
WFD	Waste Framework Directive
WMZ	Waste Management Zone
WTF	Waste Treatment Facility
MNB	Mbetje te Ngurta Bashkiake
ZMM	Zona e Menaxhimit te Mbetjeve
MFE	Ministria Financave dhe Ekonomise
PVMM	Plani Vendor i Menaxhimit te Mbetjeve
RIOTM	Rrjeti i Integruar i Objekteve per Trajtimin e Mbetjeve
OTM	Objektet per Trajtimin e Mbetjeve
ST	Stacion Transferimi
MN-B	Marreveshje Nder-Bashkiake
SHA	Shoqeri Aksionere

AKNOLOWDGEMENT

The report “Preparation of the Transport Model, including Transfer Stations at the Regional Scale and Inter-municipal institutional Set-up for Shkodër – Lezhë Waste Catchment Area” was made possible through financing of SDC under the “Bashki të Forta” (BtF) Programme, which is implemented by Helvetas Swiss Intercooperation (HSI) in Albania.

The report is prepared by the Urban Research Institute (URI) team of experts to mention Mr. Edlir Vokopola, Mrs. Entela Kallamata, Mr. Dritan Gorica, Mr. Erni Kocani, Mr. Drini Nushi. The authors of this report are grateful to HSI for the confidence and the support throughout all the work until the final version of this report was delivered.

URI avails the opportunity to particularly show its gratitude to Mr. Jacques Merat, Programme Manager of BtF and Mr. Arben Koplaku, Project Officer responsible for the waste management as well as to other people involved as and when necessary was required.

For more information the interested parties might address to Edlir Vokopola at evokopola@uri.org.al and the URI web page at www.uri.org.al.

CLARIFICATION

This document is developed by the Urban Research Institute (URI) under a contract mandated from Bashki të Forta, the project implemented in Albania by Helvetas Swiss Intercooperation with funding of Swiss Development Cooperation Agency.

URI confirms that the work is carried out with full dedication and diligence, to the maximum of professional knowledge and also in reference with other’s experiences and materials relevant with the field that is subject of the mandate, as well as based on data as collected by URI and as provided by third parties at their best knowledge and reliability.

Calculations, conclusions and recommendations as provided in this report are developed by URI and neither party would be held responsible or obliged to consider them if they think they should act differently, however insults and discrimination comments from any individual or any group shall constitute an official claim based on Helvetas Code of Ethic and generally accepted international laws against discrimination.

0. Executive Summary

0.1. Executive Summary (Alb)

Hyrje

Qëllimi i këtij dokumenti është të vendosë dhe të zbatojë një zgjidhje teknike, institucionale, kontraktuale dhe financiare në mënyrë që të bëhet operacionale skema rajonale dhe transferimi i mbetjeve nga bashkitë Malësia e Madhe dhe Kurbin në landfill-in e Bushatit deri në fund të vitit 2020 e në vazhdim. Raporti përmban ndarjen e përgjegjësisë për të përfshirë përmbushjen e funksionit të "politikave / planifikimin", "klientit" (mbledhjen dhe asgjësimin), "operatorin" (mbledhjen dhe asgjësimin) dhe "monitorimin - rregullatorin" për sistemin e ri MIMB në ZMM që është zgjedhur për këtë studim; si dhe opsionet dhe rekomandimet për ofrimin e shërbimit të menaxhimit të mbetjeve.

Konceptet e përfshira në këtë raport janë përgatitur nga URI dhe janë dhënë në kuadër të projektit "Bashki të Forta", i cili financohet nga Agjencia Zvicerane për Bashkëpunim dhe Zhvillim në Shqipëri dhe menaxhohet nga Helvetas Swiss Intercooperation, Shqipëri; ato bazohen në përvojat më të mira rajonale si dhe nga praktika nga vende të tjera.

Menaxhimi aktual i MNB në zonën e mbetjeve Shkodër-Lezhë

Zona e Menaxhimit të Mbetjeve (ZMM) Shkodër - Lezhë është e përbërë nga tetë bashki duke përfshirë, Malësinë e Madhe, Shkodrën, Vaun e Dejës, Pukën, Fushë Arrëzin në Qarkun Shkodër dhe Lezhë si dhe Mirditë dhe Kurbin në Qarkun Lezhë. Popullsia e përgjithshme e zonës, objekt i skemës, vlerësohet në rreth 413.949 banorë, e llogaritur duke përdorur formulën e MFE, e cila supozohet të llogarisë numrin e përafërt të popullatës rezidente efektive.

Që nga viti 2010, në Bushat funksionin një landfill sanitar rajonale, i cili ishte planifikuar për të dy Qarqet e Shkodrës dhe Lezhës me një jetëgjatësi të llogaritur për rreth 25 vjet. Landfill-i është në pronësi të "Ndërkomunale sh.a", një shoqëri aksionare, 100% të aksioneve të së cilës zotërohen nga Bashkia Vau e Dejës. Landfill-i i Bushatit është projektuar për një kapacitet të përgjithshëm prej rreth 1.000.000 ton, me një jetëgjatësi prej 25 vjetësh dhe për një depozitim vjetor prej rreth 50,000 ton / vit. Vlerësohet se deri tani janë shfrytëzuar rreth 250,000 ton ose rreth 1/4 e kapacitetit të projektuar. Punime shtesë janë të nevojshme për ta rritur kapacitetin deri në 1.4 milion m³ që bazuar në sasinë prej rreth 91.037 ton / vit të gjeneruar në 2019 dhe duke supozuar një potencial të mundshëm për zvogëlimin e mbetjeve të llogaritur në total rreth 14,712 ton / vit për 5 vitet e ardhshme, depozitimi vjetor i llogaritur me destinacion landfill-in vlerësohet në një sasi të përafërt prej rreth 76.325 ton / vit, e cila projektton një jetëgjatësi teorike për objektin të llogaritur në rreth 15 deri në 20 vjet duke filluar nga viti 2020.

Vlerësimi i potencialit për zvogëlimin e mbetjeve përmes riciklimit dhe kompostimit

Sasia e mbetjeve

Sipas të dhënave të publikuara nga bashkitë, mbulimi mesatar me shërbim për zonën llogaritet në rreth 80%, me mbulim më të lartë në Lezhë me 98% dhe më të ulët në Pukë me vetëm 48%. Mbulimi i territorit

është më i vogël seç duket për shkak të përqendrimit të popullsisë në zonat urbane, për faktin se një pjesë e rëndësishme e territorit është malor e për këtë arsye qasja në rrugë është e vështirë.

Nga totali prej 91.037 ton / vit i MNB i llogaritur si sasi e gjeneruar gjatë vitit 2019, vleresohet se mbledhet rreth 82.420 ton / vit, nga të cilat 59,247 ton / vit ose rreth 65% e mbetjeve të gjeneruara depozitohen në landfill-in e Bushatit; 23,173 ton / vit ose 25% në venddepozitime të tjera relativisht të kontrolluara, ndërsa diferenca prej gati 8,617 ton / vit nga totali i mbetjeve të krijuara ose 9% supozohet të depozitohet në vendet përgjithësisht të pakontrolluara.

Transferimi i MNB që mbledhen në Malesinë e Madhe dhe Kurbi për në landfill-in e Bushatit do të sigurojë që 84% krahasuar me 65% të mbetjeve të mbledhura, që e shoqëruar me mbylljen e vendeve përkatëse të depozitimit në këto dy bashki, do të sillte ndryshime të dukshme për situatën mjedisore në të gjithë rajonin.

Based on the objectives for reduction of MSW as set forth in the draft NSWM 2018 – 2033, for the first phase of implementation, biodegradable waste are expected to reduce by 25% of current generation and recyclable waste by 10% of the current generation, yielding a total of about 14,712 tonnes in 2025, of which 13,028 ton/year biodegradable and about 1,684 ton/year recyclable.

Përbërja e mbetjeve

Për qëllimin e këtij studimi, 12 përbërës që janë identifikuar në përbërjen e MNB janë grupuar në tre kategori themelore me peshën përkatëse relative mbi sasinë e e përgjithshëm të gjeneruar: (i) mbetje të biodegradueshme, 63.2% ose rreth 52,114 ton; (ii) mbetje të riciklueshme, 20.4% ose rreth 16,838 ton, si p.sh. plastika, metalet dhe qelqi, dhe (iii) mbetjet të pariciklueshme dhe mbetje të tjera që nuk mund të riciklohen ose kompostohen, 16.4% ose 13,467 ton. Bazuar në objektivat për zvogëlimin e MNB siç përcaktohet në draftin e SKMIM 2018 - 2033, për fazën e parë të zbatimit, mbetjet e biodegradueshme priten të zvogëlohen me 25% të gjenerimit aktual dhe mbetjet e riciklueshme me 10% të gjenerimit aktuale, duke dhënë gjithsej rreth 14,712 ton në vitin 2025, nga të cilat 13,028 ton / vit të biodegradueshme dhe rreth 1,684 ton / vit të riciklueshme.

Aktivitete për reduktimin e mbetjeve

Në fazën fillestare, brenda periudhës kohore 2020 – 2025, reduktimi i mbetjeve do të bazohet në kompostimin e mbetjeve bio, kryesisht përmes kompostimit nëpër shtëpi në zona të thella rurale dhe instalimin e skemave të kompostimit në shkallë të vogël në zonat rurale fushore të ZMM Shkodër – Lezhë.

PVMM gjithashtu do të inkurajojnë grumbullimin e diferencuar të mbetjeve të riciklueshme duke praktikuar projekte pilot të mbledhjes së diferencuar në zonat kryesore urbane ose qendrat e qytetit nëpër bashki.

Të gjitha sa më lart do të jenë objekt i planifikimit dhe zbatimit në bazë të PVMM të bashkive në zonë.

Në një fazë të mëvonshme, kur MBT është ndërtuar në landfill-in e Bushatit, kompostimi i centralizuar me qëllim komercial mund të jetë një tjetër mundësi për zbatim dhe reduktimin masiv të mbetjeve.

Aksionet e ndërgjegjësimit dhe edukimit do të paraprijnë dhe shoqërojnë aplikimin e zvogëlimit të mbetjeve në secilin rast.

Bashkitë, pushteti qendror dhe donatorët duhet të përfshihen në këto aktivitete duke inkurajuar përdorimin e teknologjive me kosto të ulët në mënyrë që tarifat e shërbimeve që rrjedhin nga përdorimi i teknologjisë dhe mbledhja e diferencuar të jenë brenda mundësisë për tu paguar nga qytetarët në përgjithësi.

Masterplan Vizioni për MIMNB në Zonën e Mbetjeve Shkodër - Lezhë

Bazuar në Studimin e Sektorit Kërkesa për Investime në Menaxhimin e Integruar të Mbetjeve të Ngurta (Masterplan) sistemi MNB në ZMM Shkodër - Lezhë do të zhvillohet përmes tre fazave nga 2018 - 2032 për të nënkuptuar përmirësime dhe ndërtime të reja si më poshtë:

1. Landfill-i ekzistues i Bushatit, (me përmirësim dhe zgjerimi në lidhje me kapacitetin e trajtimit, efikasitetin e përmirësimit të kushteve mjedisore, trajtimin e rrjedhjeve të ujrave dhe kapjen e gazit, si dhe shtrirjen e sipërfaqes së parashikuar gjatë fazës I-rë, fazës II-të dhe III-të);
2. Katër Stacione Transferimi të tipit rampë (Malësia e Madhe, Kurbin, Mirditë, Pukë-Fushë Arrëz) të parashikuara të zhvillohen gjatë fazës I-rë);
3. Ndërtimi i një MBT në territorin e landfillit (me teknologjinë e tharjes së mbetjeve të biodegradueshme për prodhimin karburanteve nga mbetjet, (Faza II-të)

Kostoja totale e investimit për realizimin e vizionit të Masterplanit vlerësohet rreth 45 milion EUR dhe një kosto relative operative e vlerësuar që arrin deri në 5.0 Million EUR; të gjitha për të çuar në ngritjen e tarifave nga 19 EUR / Familje/ vit në 49 EUR / Familje/ vit dhe më vonë në 61 EUR / Familje / vit.

Përballueshmëria e tarifës

Në kuadër të një projekti tjetër, URI ka vlerësuar përballueshmërinë e tarifës në ZMM Kukës bazuar në një plan rajonal i cili është i ngjashëm me vizionin e Masterplanit.

Sipas këtij vlerësimi, është e dukshme që Përballueshmëria e Tarifës (PT), tarifa për të mbuluar koston totale të një sistemi në shkallë të plotë, bazuar në anketimin e kryer në ZMM Kukës, veçanërisht për grupet e familjeve me të ardhura të ulëta (si në zonat rurale ashtu edhe në ato urbane) është në nivelin prej 0.8% (e përballueshme) deri në 1.2% (pak ose aspak e përballueshme) për një tarifë vjetore prej 41 EUR / Familje / Vit.

Prandaj, tarifata në nivelin siç parashikohet nga supozimet e Masterplanit janë mjaft të larta dhe tejkalojnë aftësinë për të paguar të familjeve të vogla në zonat rurale, dhe vënë në një rrezik të lartë edhe mundësinë e përballueshmërisë së familjeve me madhësi të mesme në zonat urbane.

Duke pasur parasysh ngjashmëritë midis shumicës së pjesëve të Rajonit Shkodër - Lezhë me Qarkun Kukës, tarifata në nivelin 61 EUR / Familje / vit do të ishin më të larta dhe me shumë mundësi përtej nivelit të përballueshmërisë për shumicën e popullatës që jeton në zonën Shkodër - Lezhë.

Për këtë arsye, rekomandohet që një Studim i Fizibilitetit dhe një model i detajuar konceptual të kërkohet për ZMM Shkodër – Lezhë, bazuar në matjet në terren të sasisë dhe përbërjes së mbetjeve që përfshijnë tërë ZMM, për të konfirmuar ose rregulluar përkatësisht supozimet dhe parashikimet e Masterplanit.

Mundësitë institucionale për operacionalizimin e skemës rajonale

Në lidhje me aspektin organizativ dhe të menaxherial, Vau Dejës ka themeluar një kompani aksionare, përkatësisht "Ndërkomunale Bushat sh.a" (Menaxheri dhe pronar i asetëve) me 100% të aksioneve në pronësi të Komunës Vau Dejës. Menaxheri ka kontraktuar operimin e landfill-it ndaj një operatori privat, përkatësisht "Becker Albania sh.a", me një kontratë shërbimi 25 vjeçare.

Preambulimi i Kontratës së Shërbimit të nënshkruar midis Menaxherit dhe Operatorit thekson se "Ndërkomunale sh.a" është krijuar për të bërë të zbatueshme dhe për të akomoduar nevojat e bashkive për depozitimin e mbetjeve, si e tillë kuptohet që nëse ndonjë bashki do të kërkonte për të përdorur landfill-

in e Bushatit, atëherë kontrata ekzistuese duhet të amendohet për të lejuar që bashkitë e tjera të rajonit të depozitojnë mbetjet e tyre në landfill.

Në nenin 2.2 të Kontratës përcaktohet tarifa për asgjësimin e MMN në landfill nga Klienti, aktualisht në shumën 863 lekë / ton (pa TVSH-në 20%) përndryshe është e barabartë me 1076 lekë / ton, por nuk ka specifikime nëse procedura "tarifa e portës" është llogaritur apo vendosur, as Kontrata e Shërbimit nuk parashikon ndonjë procedurë ose autoritet specifik që ka të drejtë të vlerësojë kostot e shërbimit dhe të caktojë tarifën e shërbimit, megjithatë kontrata nuk njeh të drejtën palëve të rishikojnë çmimin për njësi në baza vjetore.

Interesi i përbashkët i bashkive për të zgjedhur skemën rajonale

Përkundër detyrimeve të bashkive për të zbatuar kornizën ligjore për mbrojtjen e mjedisit dhe menaxhimin e integruar të mbetjeve, ndryshimet dhe përmirësimet e instrumenteve për menaxhimin e MMN në shkallë rajonale duhet të drejtohen nga një interes i përbashkët.

Përfitimet për ndryshim do të ishin të fushave të ndryshme, por jo të kufizuara domosdoshmërisht me sa vijon:

- Aspekti mjedisor,
- Menaxhimi i aseteve,
- Menaxhimi operacional dhe financiar
- Menaxhimi rregullator dhe standard,
- Kërkesa të mëtutjeshme për investime

Konteksti i rekomanduar institucional dhe shpërndarja e përgjegjësi brenda një kornize skeme rajonale

Kuadri institucional bazohet në ligjin 139/2015 "Për vetëqeverisjen vendore", në veçanti në nenin 14 dhe në vijim të Kapitullit IV "Bashkëpunimi midis njësive të vetëqeverisjes vendore".

Struktura institucionale e rekomanduar për përgatitjen e skemës rajonale, për të siguruar një menaxhim të integruar të shëndoshë, teknik dhe ekonomik të zbatueshëm të MMN në juridiksionin e një ZMM, duhet të përbëhet nga tre nivele:

1. Niveli i vendimmarrjes - këshillat bashkiak, të përfaqësuar nga kryetarët e bashkive të caktuara;
2. Niveli i funksionimit - krijimi i Entit të Kompetencës së Përbashkët, përndryshe një Shoqëri aksionare rajonale;
3. Niveli i koordinimit, monitorimit dhe vlerësimit - përndryshe krijimi i Bordit Monitorues të Komitetit Drejtues;

Paragrafët e mëposhtëm do të japin një përshkrim të hollësishëm të përgjegjësi për secilin nivel në strukturën e kornizës institucionale. Të gjitha sa vijon duhet të jenë pjesë e çdo dokumenti, marrëveshje(ve) ose kontratës(ve) të nivelit dypalësh ose ndër-bashkiak që do të zhvillohet për rastin.

Për funksionimin e një skeme rajonale, rekomandohet krijimi i një organi, të emëruar si Komitet Drejtues (KD) - Këshilli Monitorues (KM). Qëllimi i përgjithshëm i krijimit të Komitetit Drejtues - Bordit Monitorues (KD-KM) është të lehtësojë, koordinojë vendimmarrjen në nivelin bashkive, të monitorojë dhe vlerësojë

performancën e Sh.A dhe kushtet e investimeve, në nivelin që bashkitë të përmbushin detyrimet e tyre drejt përfshirjes rajonale.

Vlerësimi i Rrezikut të Opsionit Institucional dhe Qasjes për të Adresuar

Pavarësisht nëse njësi administruese do të jetë një "shoqëri aksionare" në pronësi të bashkisë, themelimi i organizimit të interesit të përbashkët të bashkisë mbart disa rreziqe që duhet të merren parasysh dhe të analizohen.

Vlerësimi ynë ka identifikuar që kategoritë me rrezik të lartë për t'u adresuar përfshijnë:

- Përfshirjen e palëve të interesit
- Politika dhe ndikimi i qeverisjes
- Kapacitetet e menaxhimit dhe burimet njerëzore

Rreziqet e tjera mund të jenë të një niveli të moderuar ose të ulët.

Kuadri institucional për administrimin e integruar të MNB është i kushtëzuar me kornizën ligjore, siç është ligji për vetëqeverisjen lokale, dhe ligjet e tjera, siç përcaktohen në dokument.

Kuadri institucional bëhet detyruar për marrëveshjet bilaterale bashkiake ose me një marrëveshje ndër-bashkiake (marrëveshje) ndërmjet bashkive që do të bëhen anëtare të një "entiteti me interes të përbashkët" për menaxhimin e integruar të MNB në ZMM të Shkodrës-Lezhë.

Marrëveshja është gjithashtu detyruese për rrugën dhe procesin për miratimin e Studimit të Fizibilitetit dhe Vlerësimit të Ndikimit Social në Mjedis të Skemës Rajonale për Menaxhimin e Integruar të MNB në ZMM të Shkodrës-Lezhë.

Përfitimet e bashkive nga një marrëveshje ndër-bashkiake për qëllime bilaterale dhe rajonale, duke patur si objekt ofrimin e një shërbimi publik, dhe për rastin në fjalë, menaxhimin e MNB, do të përfshijnë të paktën sa vijon:

- a. Ekonomitë e shkallës në kapital dhe kostot vjetore të funksionimit dhe mirëmbajtjes, të rëndësishme për ofrimin e shërbimit subjekt të marrëveshjes;
- b. Ndarja e kostove që rezultojnë në kosto më të ulëta për komunitetet që bashkëpunojnë;
- c. Vendosja e konsoliduar e objekteve që shpesh janë një sfidë dhe e vështirë për t'u vendosur;
- d. Bashkëpunimi si dhe eliminimi i tepicës në shumë aspekte;
- e. Kostot e trajtimit të njësisë më të ulta;
- f. Zonë më e madhe shërbimi, ku mund të gjenden vende më të mira për objektet rajonale, shpesh duke rezultuar me kosto më të ulët;
- g. Sigurimi i cilësisë dhe sasisë së njëtrajtshme të shërbimit;
- h. Operacionet e centralizuara / të konsoliduara të objekteve të përbashkëta.

Skenarë për menaxhimin e MNB në shkallë rajonale për ZMM Shkodër – Lezhë

Siç kemi theksuar më herët, operacionalizimi i një skeme rajonale duhet të konsiderohet si një proces i kalimit nga një skenar në tjetrin kundrejt zhvillimit të rrjetit të infrastrukturës rajonale; kjo është në të vërtetë qasja që ne propozojmë duke zhvilluar skenarët në baza të njëpasnjëshme si në vijim.

Për qëllimin e këtij mandati, kemi marrë në konsideratë 3 Skenarë:

1. Skenari 0 - ai aktual, i cili zhvillohet në dy Opsione të ndryshme; përfshinë vetëm bashkitë Malesi e Madhe dhe Kurbn:
 - a. Transferimi i MNB në vendepozitimet aktuale
 - b. Transferimi i MNB në lanfillin e Bushatit.

Llogaritjet e hollësishme të kostos janë kryer për secilin opsion të këtij skenari.

1. Skenari 1 - nënkupton përmirësime të opsionit ekzistues, duke përfshirë elementet fillestare të organizimit të skemës rajonale. Sipas këtij Skenari transferimi dhe depozitimi i mbetjeve në lanfillin e Bushatit kryhet përmes Stacioneve të Transferimit (një për secilën bashki) të menaxhuar nga bashkitë përkatëse, me transport në distancë të largët të mbetjeve të nënkontraktuara të Nderkomunale Sh.a. Për këtë skenar është bërë një llogaritje e detajuar e kostos.
2. Skenari 2 - Operacionalizimi i të gjithë skemës rajonale bazuar në parashikimet dhe udhëzimet e Masterplanit. Asnjë kosto nuk është llogaritur për këtë skenar, duke marrë parasysh që mandati ynë kërkon zhvillimin e këtij skenari.

Skenari 0: Përmirësimi i situatës aktuale

Skenari 0 i bazuar në situatën aktuale mund të zhvillohet dhe avancohet më tej, i cili do të nënkuptojë zbatimin e elementeve të ndryshëm si në vijim. Ky skenar nuk nënkupton ndërtimin dhe funksionimin e Stacioneve të Transferimit në ndonjë prej bashkive të zonës së caktuar; përkundrazi, bashkitë do të transportojnë MNB të tyre në lanfillin e Bushatit. Ky skenar është ndërtuar në tre shtylla kryesore:

1. Menaxhimi institucional - kryesorët:
 - a. Shkodra dhe Lezha rishikojnë dhe ri-nënshkruajnë marrëveshjen me Vaun e Djes dhe kontratën me Menaxherin;
 - b. Malesia e Madhe dhe Kurbinin nënshkruajnë një marrëveshje me Vaun e Dejes dhe një kontratë me Menaxherin;
 - c. Marrëveshja do të integrohet si pjesë e Preambulës së Kontratës ndërmjet Menaxherit dhe operatorit privat të lanfillit, (Becker Albania sh.a - Kompania).
2. Transportimi në distancë i MNB - elementët kryesorë:
 - a. Bashkitë, si në rastin aktual të Shkodrës, Lezhës dhe Vaut të Dejes, dhe Malësisë së Madhe dhe Kurbinin për të filluar maksimum në 2021 transferimin e MNB të tyre në lanfillin e Bushatit me operimin dhe shpenzimet e tyre, qoftë edhe përmes angazhimit të operatorëve publik apo privat.
3. Menaxhimi i lehtësirave për asgjësimin dhe trajtimin e MNB:
 - b. Menaxhimi i objektit do të mbetet i njëjtë duke pasur parasysh marrëveshjen institucionale siç përcaktohet në këtë raport.

Të dhënat kryesore që përdoren për llogaritjen e kostos së skenarëve të ndryshëm për secilën bashki, përfshijnë ato si në tabelën e mëposhtme.

Kostoja e grumbullimit, transportit, asgjësimit dhe trajtimit të MNB për Malësinë e Madhe dhe Kurbinin

Për të dyja rastet, një projeksion i gjenerimit të mbetjeve kryhet për një kohëzgjatje 5-vjeçare, bazuar në gjenerimin aktual të mbetjeve të llogaritura dhe duke marrë parasysh një rritje të gjenerimit të mbetjeve në shkallën prej 0.3% në baza vjetore dhe rritjen e popullatës në shkallën e - 0.54% (në referencë me koeficientët e përdorur për rastin e draft Strategjisë), duke përfshirë rritjen e përshkallëzuar të mbulimit gradual të shërbimit dhe zvogëlimin e mbetjeve nga përzgjedhja e kompostimit dhe riciklimit, prandaj llogaritja e kostove për skenarë të ndryshëm do të bëhet me referencë sasinë e parashikuar e mbetjeve të mbledhura bazuar në objektivat e dëshiruara të bashkive përkatëse deri në vitin 2025.

Të dhënat kryesore që përdoren për llogaritjen e kostos së skenarëve të ndryshëm për secilën bashki, përfshijnë ato si në tabelën e mëposhtme.

2025	Kubin	Malesi e Madhe
Popullsia totale	52,632	36,614
Popullsia e shërbyer	48,321	33,939
% e popullsisë së shërbyer	92%	93%
Gjenerimi për banorë (agreguar për zonat e reja të shërbyera)	0.71	0.42
MNB mbledhur në 2025	12,549	5,257
MNB mbledhur në 2025	13,014	5,476
MNB të pa menaxhuara në 2025	465	288
Mbetje të thata të riciklueshme	2,564	1,074
Mbetje të biodegradueshme	7,935	3,324
Mbetje të tjera të pa-riciklueshme	2,051	859
Mbetje të biodegradueshme të reduktuara në 2025	567	365
Mbetje të biotë reduktuara përmes kompostimit në 2025 (%)	5%	7%
Mbetje të riciklueshme të reduktuara në 2025	436	129
Mbetje të riciklueshme të reduktuara në 2025 (%)	3%	2%
Totali i mbetjeve të reduktuara 2025	1,003	507
%	8%	9%
MNB të depozituara në landfill	11,547	4,750
%	92%	90%
Km total	652	1,000
Km transport për në landfill	264	494
Km mbledhja	388	506
Km total	246	579
Km transport për në Stacionin e Transferimit	20	86
Km mbledhja	226	493

Kostoja e grumbullimit, transportit, asgjësimit dhe trajtimit të MNB për Malësinë e Madhe

Kostot për Malësinë e Madhe janë llogaritjet për Skenarin 0 llogariten në dy Opsione të cilat bazohen në sistemin e krijuar rishtazi për grumbullimin, transportimin dhe depozitimin e mbetjeve:

Sistemi i ri është hartuar në dy opsione:

1. Opsioni 1 - MNB vendosen në vendin aktual të depozitimit;
2. Opsioni 2 - MNB depozitohet në landfill-in e Bushatit.

Sipas këtij sistemi të ri, numri i itinerareve është zvogëluar nga 11 në 6, dhe distanca e çdo kamioni në deponi dhe kthimi në parking do të llogaritet veçmas.

Tabela e mëposhtme siguron krahasimin e kostove për të dy Opsionet.

Përmbledhja e të dhënave të kostos tregon që sistemi i ri me 10% më shumë mbulim, përfshirë rreth 140,000 EUR investime kapitale, do të zvogëlojë shpenzimet e shërbimit në 2025 me 12% pa ndryshuar destinacionin përfundimtar të mbetjeve.

Kostot krahasuese për skenarin 0	Kostot aktuale të shërbimit (EUR/2019)	Optioni 1 Transportimi drejt vend-depozitimit	Optioni 2 Transferimi drejt landfill-it	% ndryshimit
INVESTIMET NË TOTAL		EUR 140.833	EUR 140.833	0%
Kostot e operimit		EUR 170.857	EUR 229.913	35%
Kostot e amortizimit		EUR 8.168	EUR 8.168	33%
Kostot e administrimit		EUR 16.112	EUR 21.427	33%
Të ardhurat neto		EUR 7.161	EUR 9.523	33%
KOSTOT TOTALE OPERATIVE	246,082	EUR 202.298	EUR 269.032	33%

Këto llogaritje sugjerojnë që instalimi i sistemit të ri përfshirë investimet e kërkuara kapitale dhe depozitimin e mbetjeve në landfillin e Bushat, do t'i kushtojë bashkisë së Malësisë së Madhe diferencën prej vetëm 23,000 EUR në këmbim të një mbulimi më të mirë, cilësi më të mirë të shërbimit dhe një përmirësim thelbësor nga aspekti mjedisor.

Alternativa tjetër për të njëjtat synime dhe investime kapitale, por me një përfitim të qartë dhe të madh mjedisor për shkak të transferimit të mbetjeve në landfillin e Bushatit, do të japë një rritje të kostos vetëm me 9%, duke përfshirë një përmirësim të ndjeshëm në cilësinë e shërbimit.

Kostoja e grumbullimit, transportit, depozimit dhe trajtimit të MNB në landfillin e Bushatit në krahasim me vend-depozitimin, Kurbin

Një sistem grumbullimi i rishikuar dhe rregulluar është hartuar nga URI si pjesë e Planit Vendor të Menaxhimit të Mbetjeve për tu bërë efektiv duke filluar nga viti 2021 deri në vitin 2025. Sistemi i ri është hartuar në dy alternativa:

1. MNB depozitohen në venddepozitim aktual;
2. MNB depozitohen në landfill-in e Bushatit.

Sipas këtij sistemi të ri, numri i itinerareve është zvogëluar në 5, dhe distanca e çdo kamioni nga landfill-i dhe kthimi në parking do të llogaritet gjithashtu veçmas në krahasim me transportin e mbetjeve në vend-depozitimin aktual.

Bazuar në sistemin e ri dhe në referencë të destinacionit përfundimtar të depozitimit të mbetjeve, kostot llogariten në krahasim me kostot aktuale të shërbimit. Përmbledhja e të dhënave të kostos tregon që sistemi i ri me 10% më shumë mbulim, përfshirë rreth 177,000 EUR investime kapitale, do të ulë kostot e shërbimit në 2025 me rreth 53% pa ndryshuar destinacionin përfundimtar të mbetjeve.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Alternativa tjetër për të njëjtat synime dhe investime kapitale, por me një përfitim të qartë dhe të madh mjedisor për shkak të transferimit të mbetjeve në landfill-in e Bushatit, do të japë një rritje të kostos për rreth 60% duke përfshirë një përmirësim të ndjeshëm në cilësinë e shërbimit, por ende 26% më pak në krahasim me kostot aktuale.

Tabela e mëposhtme siguron krahasimin e kostove për të dy Opsionet

Kostot krahasuese për skenarin 0	Kostot aktuale të shërbimit (EUR/2019)	Optioni 1 Transportimi drejt vend-depozitimit	Optioni 2 Transferimi drejt landfill-it	% ndryshimit
INVESTIMET NË TOTAL		EUR 177.261	EUR 177.261	0%
Kostot e operimit		EUR 181.610	EUR 310.176	71%
Kostot e amortizimit		EUR 11.529	EUR 11.529	0%
Kostot e administrimit		EUR 17.383	EUR 28.953	67%
Të ardhurat neto		EUR 7.726	EUR 12.868	67%
KOSTOT TOTALE OPERATIVE	471,910	EUR 218.247	EUR 363.526	67%

Këto llogaritje sugjerojnë që instalimi i sistemit të ri përfshirë investimet e kërkuara kapitale dhe depozitimin e mbetjeve në landfillin e Bushatit, do t'i kushtojë Bashkisë Kurbini një ulje neto të kostove të shërbimit me rreth 108,384 EUR në krahasim me kostot aktuale të shërbimit për një mbulim më i mirë, cilësi më e mirë të shërbimit dhe një përmirësim thelbësor nga aspekti mjedisor.

Masat për të përmirësuar zbatimin e Skenarit 0

Ndryshimet fillestare të menjëhershme do të sigurojnë:

- **Së pari**, Landfilli i Bushatit është akredituar me statutin e një objekti rajonal për administrimin e integruar të MNB në ZMM të Shkodër - Lezhë, si i tillë ai është ndërtuar për t'u shërbyer të gjitha bashkive në ZMM; kjo duhet të njihet zyrtarisht para së gjithash nga Bashkia e Vaut të Dejes. Miratimi i Masterplanit nga MIE do të përbëjë statutin e objektit, por nuk duhet domosdoshmërisht të pritët derisa të ndodhë kjo.
- **Së dyti**, marrëveshja duhet të sigurojë përfshirjen e instrumenteve të nevojshëm për të lejuar një monitorim dhe vlerësim transparent të performancës së operatorit të landfillit dhe përfshirjen e instrumenteve të nevojshëm për të siguruar një diskutim të hapur dhe vendimmarrje transparente mbi kostot dhe tarifën përkatëse të portës për funksionimin e landfillit, përfshirë sanksionet nëse më vonë nuk do ta bëjnë këtë:
 - o Përgatitja e një Plani Biznesi të arritshëm për të gjitha bashkitë;
 - o Qasja në llogaritjen e kostos për të gjitha bashkitë;
 - o Krijimi i një sistemi monitorimi, vlerësimi dhe raportimi me pjesëmarrjen e përfaqësuesve nga të gjitha bashkitë, MIE dhe MTM.
- **Së treti**, për të mundësuar përfshirjen e autoriteteve të pushtetit qendror si palë të interesit me përgjegjësinë për të garantuar ekzekutimin e marrëveshjes, rregullimin e marrëdhënieve ndërmjet bashkive dhe monitorimin e performancës. Roli i qeverisë qendrore duhet të kushtëzojë planifikimin dhe të sigurojë financim shtesë të nevojshëm për përmirësimin dhe shtrirjen e kapaciteteve të

mundshme të landfill-it dhe ofrimin e shërbimeve të tjera që do ta shndërrojnë atë në një Mjet të Trajtimin të Mbetjeve.

Skenari 1: Vendosja e bazave fillestare të skemës rajonale

Skenari 1 mund të zhvillohet në të paktën një ose më shumë opsione. Për ta bërë dokumentin më miqësor për lexuesin dhe përdoruesin e këtij dokumenti, ne po marrim parasysh vetëm një mundësi, atë që është më e efektshme.

Skenari 1 nënkupton transformimin e mëtejshëm institucional të skemës fillestare rajonale.

Ky skenar prezanton ndryshime në modalitetet e menaxhimit:

- Landfilli rajonal është në pronësi të bashkisë Vau Dejes dhe menaxhohet nga Nderkomunale Sh.A me operim të nënkontraktuar nga nënshkrimi i një kontrate shërbimi 25 vjeçare për një operator privat;
- Stacionet e transferimit të Malsisë së Madhe dhe Kurbin janë në pronësi dhe administrohen nga bashkitë përkatëse;
- Transporti në distancë të gjatë të MNB nga ST në landfill është nënkontraktuar tek "Nderkomunale Sh.A". Pajisjet e nevojshme për të kryer transportin në distancë kombinojnë një kamion dhe tre rimorkio me nga 20 tonë secila që do të shërbejnë si për bashkitë e Malësisë së Madhe ashtu edhe të Kurbinin;
- Bazuar në orët e transportit në javë që kërkohen në secilën bashki, shkalla e përdorimit të kamionit të transportit është 75% për Kurbin dhe 25% për Malësinë e Madhe, e cila përkatësisht përdoret për të ndarë kostot e mirëmbajtjes dhe amortizimit të një kamionit dhe një rimorkioje.

Analiza e kostos së Skenarit 1 për Malësinë e Madhe

Për këtë skenar, në stacionin e transferimit, një kamion transporti me 2 rimorkio 20 ton secila, do të jetë funksional, me një faktor mbushjeje 85%, pra, një kapacitet efektiv prej rreth 17 tonë. Koha totale e transportit, përfshirë kohën e kamionit për të ngarkuar dhe shkarkuar, arrin 1.6 orë. Kamioni ndahet me Bashkinë e Kurbinin.

Përmbledhje e kostove	LEKË	EURO
Totali i investimeve	17.181.600	EUR 140.833
Totali i kostove operative [Lekë/vit]	28.313.077	EUR 232.074
Totali i kostove të amortizimit [Lekë/vit]	3.234.533	EUR 26.513
Kostot administrative [Lekë/vit]	2.839.285	EUR 23.273
Të ardhurat neto [Lekë/vit]	1.261.904	EUR 10.343
TOTALI GJITHËSEJ I KOSTOVE OPERATIVE [LEKË/VIT]	35.648.799	EUR 292.203

Tabela e mësipërme parashikon të gjitha njësitë e kostos për shërbimin e menaxhimit të mbetjeve në Malësinë e Madhe, me mbetjet e depozituara dhe të trajtuara në landfill-in e Bushatit përmes një stacioni transferimi dhe grumbullimin e mbetjeve në landfill nën operimin e kompanisë Ndërkomunale Sh.a të nënkontraktuar.

Krahasimi i Analizës së Kostos së Opsionit 2 të Skenarit 0 dhe Skenarit 1 për Bashkinë e Malësisë së Madhe

Për qëllimin e këtij ushtrimi, është bërë një krahasim i analizës së kostos së rezultateve të kostove të shërbimit për Opsionin 2 të Skenarit 0 që të nënkupton transportin e MNB në landfillin e Bushatit, pasi janë mbledhur; dhe Skenari 1 për të nënkuptuar transportin e MNB në landfillin e Bushatit përmes një ST.

Kostot krahasuese për skenarin 0 – versioni 2 dhe skenarin 1 - version 2b	Transportimi direkt në Landfill (Opsioni 2, Skenari 0)	Transportimi përmes ST– një kamion (Skenari 1)	% ndryshimi
INVESTIMET NË TOTAL	EUR 140.833	EUR 140.833	0%
Kostot e operimit	EUR 229.913	EUR 228.849	-0.5%
Kostot e amortizimit	EUR 8.168	EUR 17.644	116%
Kostot e administrimit	EUR 21.427	EUR 22.184	3.5%
Të ardhurat neto	EUR 9.523	EUR 9.860	3.5%
KOSTOT TOTALE OPERATIVE	EUR 269.032	EUR 278.537	3.5%

Shifrat si në tabelën e mësipërme tregojnë se transferimi i drejtpërdrejtë i MNB në landfill-in e Bushatit kundrejt transportit përmes përdorimit të një Stacioni Transferimi vetëm për qëllimin e operacionalizimit të kostove të transportit, si pjesë e kostos së përgjithshme për menaxhimin e shërbimit, duket se, ndryshimi është vetëm 3.5% më i ulët sesa Opsioni 2 i Skenarit 0; shumica e ndryshimeve janë për shkak të kostove më të larta të amortizimit të cilat lidhen me objektin e ST dhe pajisjet që përdoren për funksionimin e tij. Në fazën fillestare transporti i drejtpërdrejtë kundrajt transportit ndërmjet ST është më i rekomandueshëm.

Analiza e kostos së Skenarit 1 për Kurbin

Për këtë skenar, në stacionin transferues një kamion me 2 rimorkio 20 ton do të jetë funksional, me një faktor mbushjeje 85%, pra, një kapacitet efektiv prej rreth 17 tonë. Koha totale e transportit, përfshirë kohën e kamionit për të ngarkuar dhe shkarkuar, arrin 2.5 orë. Kamioni ndahet me bashkinë e Kurbin.

Përmbledhje e kostove	LEKË	EURO
Totali i investimeve	21.625.800	EUR 177.261
Totali i kostove operative [Lekë/vit]	38.494.523	EUR 315.529
Totali i kostove të amortizimit [Lekë/vit]	3.288.555	EUR 26.955
Kostot administrative [Lekë/vit]	3.760.477	EUR 30.824
Të ardhurat neto [Lekë/vit]	1.671.323	EUR 13.699
TOTALI GJITHËSEJ I KOSTOVE OPERATIVE [LEKË/VIT]	47.214.878	EUR 387.007

Tabela e mësipërme parashikon të gjitha njësitë e kostos për shërbimin e menaxhimit të mbetjeve në Kurbin, me mbetjet e depozituara dhe të trajtuara në landfill-in e Bushatit përmes një stacioni transferimi dhe grumbullimin e mbetjeve në landfill nën operimin e kompanisë Ndërkomunale Sh.a të nënkontraktuar.

Krahasimi i Analizës së Kostos së Opsionit 2 të Skenarit 0 dhe Skenarit 1 për Bashkinë e Kurbin

Për qëllimin e këtij ushtrimi, është bërë një krahasim i analizës së kostos së rezultateve të kostove të shërbimit për Opsionin 2 të Skenarit 0 që të nënkupton transportin e MNB në landfillin e Bushatit, pasi janë mbledhur; dhe Skenari 1 për të nënkuptuar transportin e MNB në landfillin e Bushatit përmes një ST.

Kostot krahasuese për skenarin 0 – versioni 2 dhe skenarin 1 - version 2b	Transportimi direkt në Landfill (Opsioni 2, Skenari 0)	Transportimi përmes ST– një kamion (Skenari 1)	% ndryshimi
INVESTIMET NË TOTAL	EUR 177.261	EUR 177.261	0%
Kostot e operimit	EUR 310.176	EUR 315.529	1.7%
Kostot e amortizimit	EUR 11.529	EUR 26.955	134%
Kostot e administrimit	EUR 28.953	EUR 30.824	6.5%
Të ardhurat neto	EUR 12.868	EUR 13.699	6.5%
KOSTOT TOTALE OPERATIVE	EUR 363.526	EUR 387.007	6.5%

Shifrat si në tabelën e mësipërme tregojnë se transferimi i drejtpërdrejtë i MNB në landfillin e Bushatit kundrejt transportit përmes përdorimit të një Stacioni Transferimi vetëm për qëllimin e operacionalizimit të kostove të transportit, si pjesë e kostos së përgjithshme për menaxhimin e shërbimit, duket se ka një ndryshimi prej rreth 6.5% më i ulët sesa Opsioni 2 i Skenarit 0; shumica e ndryshimeve janë për shkak të kostove më të larta të amortizimit të cilat lidhen me objektin e ST dhe pajisjet që përdoren për funksionimin e tij. Në fazën fillestare transporti i drejtpërdrejtë kundrejt transportit ndërmjet ST është më i rekomandueshëm.

Rekomandime për Bashkitë Malësi e Madhe dhe Kurbi në funksion të dimensionit rajonal

1. Malësia e Madhe dhe Kurbin duhet të krijojë burime të mjaftueshme për transferimin e MNB në landfillin e Bushatit duke filluar të paktën nga viti 2021 ose edhe më herët nëse u ofrohet ndihmë financiare nga burime të tjera të jashtme,
2. Paralelisht me këtë MIE dhe MTM duhet të buxhetojnë për mbylljen e vend-depozitimeve ekzistuese dhe shndërrimin e këtyre vendeve si destinacione për depozitimin e mbetjeve inerte,
3. Të dyja bashkitë duhet të aprovojnë dhe zbatojnë PVMM,
4. Të dyja bashkitë duhet të fillojnë me praktikimin e zvogëlimit të mbetjeve fillimisht përmes kompostimit individual nëpër shtëpi dhe gradualisht të fillojnë zbatimin e skemës së kompostimit në shkallë të vogël si dhe ndarjen e mbetjeve të riciklueshme me projekte pilot në qendrat urbane,
5. BtF ose donatorë të tjerë duhet të mbështesin të këto dy bashki në zbatimin e PVMM të tyre të reja në:
 - a. Financimi i shpenzimeve për transportin dhe largimin e MNB drejt landfill-it të Bushatit,
6. Financimi i investimeve kapitale për bashkitë për të zbatuar PVMM me përparësi të veçantë në praktikimin e kompostimit individual,
 - a. Mbështetje me materiale edukative dhe aktivitete ndërgjegjësuese,
7. Mbështetje me ndërmjetësimin për të përfshirë ministrinë e linjës për të siguruar fonde për mbylljen e vend-depozitimeve ekzistuese,
8. Në planin afatmesëm (2023), bashkitë duhet të rregullojnë të gjitha kushtet teknike për të identifikuar një vend të sigurt për ndërtimin e Stacioneve të Transferimit dhe të identifikojnë fondet për ndërtimin e tyre,

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

9. Nëse krijohet një skemë rajonale dhe realizohet administrimi i integruar i MNB përmes modaliteteve të zvogëlimit të mbetjeve, stacionet e transferimit bëhen bazë për lehtësimin e veprimtarive për menaxhimin e rrymave të tjera të mbetjeve.
10. Vlerësimi teknik i kushteve aktuale si dhe hartimi dhe financimi i zbatimit të masave që sigurojnë kushtet e cilësisë dhe të sigurisë në landfillin e Bushatit,
11. Një Studim Fizibiliteti në një shkallë të plotë, i shoqëruar me një Vlerësim Social Strategjik Mjedisor, është i nevojshme të bëhet për të vlerësuar të gjithë rrjetin rajonal të infrastrukturës së ZMM Shkodër – Lezhë,
12. Së fundmi, Komiteti Drejtues - Bordi Monitorues duhet të krijohet ndërkohë si prioritet që të sigurojë që po vijohet me hapat fillestarë për operacionalizimin e skemës

Hapat për të zbatuar një Skemë Operative me Faza për Zonën Rajonale

Përtej sa është parashtruar më lart, të hartohet një skenar model i zhvillimit dhe menaxhimit si dhe zbatimi i planit të veprimit bazuar në një qasje trefazore:

1. Faza 1: Bashkitë Malësia e Madhe dhe Kurbin depozitojnë mbetjet e tyre në landfillin e Bushatit, mbyllja e vend-depozitimeve ekzistuese do të vijojë, 2020 - 2021;
2. Faza 2: Përfshirja e Pukës dhe Fushë Arrëzit në skemë në një fazë të mëvonshme, një Stacion Transferimi është ndërtuar dhe është funksional, landfill-i i Bushatit është përmirësuar, reduktimi i mbetjeve përmes shkallës së vogël dhe kompostimit individual po përparon, dhe mbledhja e diferencuar e mbetjeve të riciklueshme pilotohet gjerësisht në zonat urbane, 2022 - 2025
3. Faza 3: Përfshirja e Bashkisë Mirditë në skemë si faza përfundimtare, Stacionet e Transferimit në Malësinë e Madhe dhe Kurbin janë ndërtuar dhe funksional, zgjaten transformimet institucionale janë zgjeruar, një MBT është operacional në landfillin e Bushatit, prej vitit 2025 .

Skenari 2: Krijimi i një skeme të integruar rajonale

Skenari 2 mund të zhvillohet gjithashtu në dy opsione dhe karakterizohet nga ndryshime të gjera institucionale dhe adoptim i një menaxhimi të gjerë të rrjetit të integruar të infrastrukturës rajonale për trajtimin dhe asgjësimin e MNB. Për Skenarin 2 nuk janë bërë llogaritje të kostove pasi kjo kërkesë nuk është në ,andatin e URI, ndërsa kjo do të kërkonte një Studim Fizibiliteti të plotë.

Opsioni 1: Transformimi i "Ndërkomunale Sh.A"

Sipas këtij opsioni, ndryshimet institucionale dhe organizative marrin në konsideratë shndërrimin e Ndërkomunale sha në një organizatë rajonale, si për mënyrën e mëposhtme të veprimit:

- a. Nderkomunale Sh.A shndërrohet në një Ent Ndër-Bashkiak me Kompetenca të Përbashkët (ENBKP), i organizuar si SH.A., aksionet e të cilës u ndahen bashkive anëtare bazuar në numrin e popullsisë siç përcaktohet në një Marrëveshje Ndër-Bashkiake.

SHA që do të krijohet bazuar në MN-B dhe do të jetë përgjegjëse për menaxhimin e landfillit të Bushatit

- b. Stacionet e transferimit të Malsisë së Madhe dhe Kurbin (kur të bëhet funksional) janë në pronësi të bashkive përkatëse.

Në një fazë të mëvonshme, ST të Mirditës dhe Pukë - Fushë Arrez, kthehen në pronësi operative dhe manaxheriale nga bashkitë përkatëse.

Opsioni 2: Krijimi i Entit të Kompetencës së Përbashkët për të gjithë infrastrukturën rajonale

Ky opsion shtrin shkallën e organizimit rajonale përmes krijimit të një entiteti i cili do të jetë përgjegjës për të menaxhuar të gjithë infrastrukturën rajonale të ruajtjes së përkohshme (ST), transportin në distanca të largëta dhe objektet e trajtimit dhe asgjësimit përfundimtar:

- a. Një entitet i Kompetencës së Përbashkët është krijuar bazuar në një IMA të përgjithshme të ZMM Shkodër - Lezhë.
- b. EKP e organizuar në formatin e SHA është krijuar për menaxhimin e infrastrukturës rajonale përfshirë landfillin e Bushatit dhe ST të Malësisë së Madhe dhe Kurbinut (përfshirë infrastruktura të tjetër që do të zhvillohen në fazat e fundit të zbatimit të Masterplan) dhe transportin në distancë të largët të MNB në landfill.

Për qëllim të zhvillimit të mëtejshëm të strukturës institucionale, për menaxhimin e RIOTM , nëse kryetarët e bashkive do të shpreheshin që një kompani aksionare e themeluar rishtazi, e cila do të jetë përgjegjëse për menaxhimin e RIOTM, që të përfshijë ofrimin e shërbimeve të pritjes së MNB në Stacionet e Transferimit, transportimi i këtyre mbetjeve në OTM dhe ST në Shkodër-Lezhë dhe transportimi për trajtimin përfundimtar në landfillin e Bushatit. atëherë rekomandimi i Opsionit 2 i Skenarit 2, do të ishte formati më i përshtatshëm për një shkallë të plotë rajonale të një grupi ndër-bashkiak - të menaxhimit të MNB në ZMM Shkodër – Lezhë.

0.2. Executive Summary (Eng)

Introduction

The purpose of this document is to decide and implement a technical, institutional, contractual and financial solutions in order to make operational a regional scheme and the transfer of the waste from Malesia e Madhe and Kurbin to Bushat landfill by the end of 2020 and onward. The report contains allocation of responsibilities to include fulfilment of the function of “policy/planner”, “client” (collection and disposal), “operator” (collection and disposal), and “monitor - regulator” for the new ISWM system in the selected WMZ; and Options and Recommendations for Service Delivery.

The concepts contained in this report are prepared from URI and delivered under the framework of the project “Strong Municipalities – Bashki të Forta” that is financed by the Swiss Cooperation and Development in Albania and managed by Helvetas, Albania; they are based on best regional and other experiences in the country.

Current MSW Management in the Shkodër-Lezhë Waste Area

The Waste Management Area of Shkodër – Lezhë is composed of eight municipalities to include, Malësia Madhe, Shkodër, Vau Dejës, Puke, Fushë Arrëz of the Region (Qark) of Shkodra and Lezhë, Mirditë, and Kurbin to compose the Region (Qark) of Lezhë. The total population of the area subject of the scheme is estimated at about 413,949 inhabitants, as calculated using the formula of MEF which is assumed to provide for approximate number of effective resident population.

Since 2010, there is a regional sanitary landfill in Bushat, which was planned for both Regions of Shkodra and Lezha for a lifetime of about 25 years. The landfill is owned by “Ndërkomunale Bushat sh.a”, a joint – stock – company, which 100% of shares are owned by Municipality of Vau i Dejës. Landfill of Bushat is designed for a total capacity of about 1,000,000 ton over a period of 25 years for an annual throughput of about 50,000 ton/year. It is estimated that about 250,000 tonnes or about 1/4th of the designed capacity of the landfill is utilized. Additional capacities are required to extend it up to 1.4 million m³ that based on the amount of about 91,037 ton/year generated in 2019 and assuming a theoretical waste reduction potential calculated at about 14,712 tonnes/year for the next 5 years, the calculated throughput with destination the landfill of Bushat is estimated at approximate amount of about 76,325 tonnes/year, the remaining theoretical lifespan for the facility is calculated at about 15 to 19 years starting from 2020.

Evaluation of the potential for waste reduction through recycling and composting

Waste amount

According to data released by municipalities, the average service coverage for the area is calculated at about 80% with the highest achieved in Lezha with 98 % and the lowest in Puke with only 48%. The territorial coverage is smaller apparently due to the concentration of population in urban areas because of the fact that an important part of the territory is mountainous and therefore road accessibility is difficult.

From the total of 91,037 ton/year of MSW calculated as the generated amount during 2019, while the total collection is estimated at 82,420 tonnes/year, out of which 59,247 tonnes/year or about 65% of the total waste generated is disposed in the landfill of Bushat; 23,173 tonnes/year or 25% in other rather controlled municipal dump sites; whereas the difference of almost 8,617 tonnes/year from the total of waste generated or 9% is supposed to be disposed in total uncontrolled sites.

Transfer of MSW collected in Malesia e Madhe and Kurbin to the landfill of Bushat will ensure that 84% as compared to 65% of the waste collected shall dispose to the landfill, associated with the proper closure of disposal sites in these two municipalities.

Waste composition

For the purpose of this study 12 components that are identified in the MSW composition are grouped than in three basic categories with the respective relative weight over the total generation: (i) biodegradable waste 63.2% or about 13,029 tonnes; (ii) recyclable waste 20.4% or about 1,684 tonnes such as plastic, metals and glass, and (iii) non-recyclable waste and other waste that cannot be recycled or composted (16.4%). Based on the objectives for reduction of MSW as set forth in the draft NSWM 2018 – 2033, for the first phase of implementation, biodegradable waste are expected to reduce by 25% of current generation and recyclable waste by 10% of the current generation, yielding a total of about 14,712 tonnes in 2025, of which 13,028 ton/year biodegradable and about 1,684 ton/year recyclable.

Waste reduction actions

At the initial phase within the timespan 2020 – 2025 waste reduction shall be based on composting of bio waste mainly through home composting in remote rural areas and the installation of small scale composting schemes in plane rural areas of Shkodër – Lezhë WMZ.

LWMPs will also encourage separate collection of recyclable waste by practicing pilot actions of separate collection in main urban areas or city centres of the municipalities.

All as above shall be subject of planning and implementation under the LWMP of the municipalities in the area.

At a later phase, when the MBT is constructed in the landfill of Bushat, centralized commercial composting might be another option for implementation.

Awareness and education actions shall precede and accompany the application of waste reduction in each case.

Municipalities, central government and donors to be involved in this action will encourage low cost technologies so that service tariffs which derive from the use of technology and separate collection are within the affordability to pay of public at large.

Masterplan Vision for IMMSW in Shkodër – Lezhë Waste Area

Based on the Sector Study Investment Demand Integrated Solid Waste Management (Masterplan) the MSW system in Shkodër – Lezhë WMZ shall develop through three phases from 2018 – 2032 to imply:

1. Existing Landfill of Bushat, (with additional improvement with regard treatment, environment efficiency, leachate treatment and gas capture and extension of the surface foreseen during Phase I, Phase II and III);
2. Four Transfer Stations of ramp type (Malesia e Madhe, Kurbin, Mirdite, Puke-Fushe Arrez) foreseen to develop during Phase I ;
3. Construction of a MBT (with biology drying technology (for RDF production) in the territory of the landfill, (Phase II)

Total investment cost for the realization of the Masterplan vision is estimated at about 45 Million EUR and an estimated operational costs that tops up to 5.0 Million EUR; all to lead to the raise of the tariffs from 19 EUR/HH/year to 49 EUR/HH/year and later to 61 EUR/HH/year.

Tariff Affordability

Under a different project, URI has assessed the affordability to pay in Kukes WMZ based on a regional plan which is similar to the vision of the Masterplan.

According to this assessment, it is visible that the Affordability to Pay (ATP) the fee to cover total cost of a full scale system based on the survey carried out in Kukes WMZ, especially for low income groups of HH (both in rural and urban areas) is at the range of 0.8% (affordable) to 1.2 % (quite even or slightly not affordable) for an annual fee at the range of 41 EUR /HH/Year.

Therefore tariffs at the level as forecasted from the Masterplan assumptions are rather high and overcome the ability to pay for small and rural HH, and put at a high risk even the affordability of medium size families in urban areas.

Given the similarities between most parts of the Region Shkodër – Lezhë with Kukes Region, tariffs at the level of 61 EUR/HH/year would rather high and very probably beyond the affordability level for most of the population living in the Shkodër – Lezhë Area.

Therefore, it is recommended that a Feasibility Study and a detailed conceptual design is required for the Shkodër – Lezhë WMZ based on field measurements of waste amount and composition involving the whole WMZ, to either confirm or adjust accordingly Masterplan assumptions and forecast

Institutional options for the operationalization of the regional scheme

With regard organizational and management aspect, Vau Dejës has established a joint – stock company, namely “Ndërkomunale/Intercommunal Bushat sh.a” (the Manger who is the owner of the assets) with 100 % of shares owned by Vau Dejës Municipality. The Manager has contracted out operation of the landfill to a private operator namely “Becker Albania sh.a” under a 25 years’ Service Contract.

The Preamble of the Service Contract signed between the Manger and the Operator emphasizes that “Nderkomunale sh.a” has been created to make implementable and to accommodate the needs of the municipalities for waste disposal, as such it is understood that should any municipality would require to use landfill of Busha, than the existing contract should be amended to allow for other municipalities in the region to dispose their waste in the landfill.

The Article 2.2 of the Contract defines the tariff for the disposal of MSW to the landfill from the Client, currently at the amount of 863 ALL/ton (excluding VAT of 20%) otherwise equal 1076 ALL/ton, but there are no specifications about the procedures the “gate fee” is calculated and set, nor does the Service Contract provides for any procedure or specific authority that has the right to estimate the costs of the service and set up the service fee, nevertheless the contract recognizes the right of parties to revise the unit price at annual bases.

Common interest of municipalities to opt for the regional scheme

Despite obligations of municipalities to cope with the legal framework with reference environment protection and integrated waste management, changes and improvements of the instruments for the management of MSW at regional scale should be geared by a common interest.

Benefits for change would be of various fields, as least but not necessarily limited with the following:

- Environmental aspect,
- Asset management,
- Operational and financial management
- Regulatory and standard management,
- Further Investment requirements.

Recommended institutional context and allocation of responsibilities under a regional scheme framework

The institutional framework shall be based on the law 139/2015 “On local self-government”, in particular to Article 14 and the following of the Chapter IV “Cooperation between local self-government units”.

The recommended institutional structure for the preparation of the regional scheme, to ensure an environmental sound, technical and economic viable integrated management of MSW in the jurisdiction of a WMZ, should be composed of three levels:

1. Level of decision making - municipal councils, represented by mayors of designated municipalities;
2. Level of operation – establishment of the Entity of Joint Competence, otherwise a regional Joint – Stock Company ;
3. Level of coordination, monitoring and evaluation - otherwise the establishment of Steering Committee-Monitoring Board;

The following paragraphs shall provide a detailed description of responsibilities for each level in structure of institutional framework. All the following should be part of any document(s), agreement(s) or contract(s) of either bilateral or inter-municipal level that shall be developed for the case.

For the operationalization of a regional scheme establishment of a body, nominated as the Steering Committee (SC) - Monitoring Board (MB) in recommended. The general purpose of establishing the Steering Committee – Monitoring Board (SC-MB) is to facilitate, coordinate decision making at the level of municipal level, monitor and evaluate the performance of the EJC and condition investments with the level on which municipalities meet their obligations toward their regional involvement.

Risk Assessment of the Institutional Option and Approach to Address

Regardless whether the management entity will be a “state – municipal owned “joint stock company”, establishment of the organization of municipal joint interest bears several risks that need to be considered and analysed.

Our assessment has identified that categories with high risk to address include:

- Involvement of stakeholders of interested
- Politics and governance influence
- Management capacities and human resources

Other risks might be of either moderate or low level.

Institutional framework for the integrated management of MSW is conditional to the legal framework as of the law on local self-government, and other laws as specified in the document.

The institutional framework becomes binding to either bilateral municipal agreements or an inter-municipal agreement (the agreement) between municipalities that are to become members of an “entity of joint interest” for the integrated management of MSW in the WMZ of Shkodër-Lezhë.

The agreement is also binding to the path and the process for the approval of the Feasibility study and the Environment and Social Impact Assessment of the Regional Scheme for the Integrated Management of MSW in the WMZ of Shkodër-Lezhë.

The benefits of municipalities from an Inter-municipal agreement for both bilateral and regional purpose, having as subject the delivery of a public service, and for the said case, the management of MSW, would include at least the following:

- a. Economies of Scale in capital and annual operation and maintenance costs relevant to the delivery of the service subject of the agreement;
- b. Cost sharing resulting in lower costs for cooperating communities;
- c. Consolidated siting of facilities that are often a challenge and difficult to site;
- d. Cooperation with and elimination of redundancy in many aspects
- e. Lower unit treatment costs
- f. Larger service area in which to find the best sites for regional facilities, often resulting in lower costs
- g. Ensure uniform quality and quantity of the service
- h. Centralized/consolidated operations of mutual facilities

Scenarios for management of MSW at regional scale for Shkodër – Lezhë WMZ

As we have earlier emphasized, operationalization of a regional scheme should be considered as a process of moving from one scenario to the other one vis a vis with the development of the network of regional infrastructure; this is in fact the approach we propose by developing the scenarios on a consecutive bases as in the following.

For the purpose of this mandate, we have taken into consideration 3 Scenarios:

3. Scenario 0 - the current one, which is developed in two different Options; it implies only the municipalities of Malesia Madhe and Kurbin :
 - a. Transfer of MSW to the current disposal sites (DS)
 - b. Transfer of MSW to landfill of Bushat.

Detailed cost calculations are carried out for each option of this scenario.

4. Scenario 1 – implies improvements of the current one including initial elements of regional scheme organization. Under this Scenario transfer and disposal of waste to landfill of Bushat is carried through Transfer Stations (one for each municipality) managed by each respective municipality, with long distance transportation of waste subcontracted to Nderkomunale Sh.a. A detailed cost calculation is carried out for this scenario.
5. Scenario 2 – Operationalization of the whole regional scheme based on the Masterplan projections and guidance. No costs are calculated for this scenario, given that our mandate does requires for the development of this scenario.

Scenario 0: Improvement of Current situation

Scenario 0 that is based on the current situation might develop and further advance, which improvement would imply implementation of various elements as in the following. This scenario does not implies the construction and operation of Transfer Stations in any of the municipalities of the designated area; rather, municipalities will transport their MSW to the landfill of Bushat. This Scenario is built upon three main pillars:

1. Institutional arrangement – the main ones:
 - a. Shkodër and Lezhë review and re-sign the agreement with Vau Djes and the contract with the Manager;
 - b. Malesia Madhe and Kurbin sign an agreement with the municipality of Vau Dejes and a contract with the Manager,
 - c. The agreement shall be integrated as part of the Preamble of the Contract between the Manager and the private operator of the landfill, (Becker Albania sh.a – the Company)
2. Long distance transportation of MSW – the main elements
 - a. Municipalities, as it is the current case of Shkodër, Lezhë and Vau Dejes, and Malesia e Madhe and Kurbin to start by max 2021 take their MSW to the landfill of Bushat on their own operation and expenses either through engaging public or private operators.
3. Management of facilities for the disposal and treatment of MSW:
 - a. The management of the facility shall remain the same given the institutional arrangement as delineated in this report.

Cost of MSW collection, transportation, disposal and treatment for Malesia e Madhe and Kurbin

For both cases a waste generation projection is carried out for a 5 years timespan, based on current calculated waste generation and taking into consideration an increase of waste generation at the rate of 0.3% at annual bases and the increase of the population at the rate of – 0.54%¹ (in reference with the coefficients as used for the case of the draft Strategy), including the escalated gradual service coverage increase and waste reduction by composting and selection for recycling, therefore calculation of costs for various scenarios will be carried out with reference the projected waste amount collected based on desired objectives of respective municipalities until 2025.

Main data that are used for the cost calculation of various scenarios for each municipality include those as in the following table.

2025	Kubin	Malesi e Madhe
Total population	52,632	36,614
Served population	48,321	33,939
% of served population	92%	93%
Generation per capita (aggregated as new areas served)	0.71	0.42
MSW Collected in 2025	12,549	5,257
MSW Generated in 2025	13,014	5,476

¹ Based on INSTAT study on medium population increase scenario for 2018 – 2033.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

MSW not managed in 2025	465	288
Dry recyclable waste	2,564	1,074
Biodegradable waste	7,935	3,324
Other non-recyclable waste	2,051	859
Biodegradable waste reduced in 2025	567	365
Biodegradable waste reduced through composting in 2025 (%)	5%	7%
Recyclable waste reduced in 2025	436	129
Recyclable waste reduced in 2025 (%)	3%	2%
Total waste reduced in 2025	1,003	507
%	8%	9%
MSW deposited in landfill	11,547	4,750
%	92%	90%
Km total	652	1,000
Km transport to landfill	264	494
Km collection	388	506
Km total	246	579
Km transport to Transfer Station	20	86
Km collection	226	493

Cost of MSW collection, transportation, disposal and treatment for Malësia e Madhe

Cost for Malësia e Madhe are calculations for Scenario 0 are calculated in two Options which are based on the newly designed system for waste collection, transportation and disposal:

The new system is designed in two Options:

- Option 1 - MSW are disposed to the current disposal site;
- Option 2 - MSW are disposed to the landfill of Bushat.

According to this new system, the number of itineraries is reduced from 11 to 6, and the distance of each truck to the landfill and back to the parking lot is calculated separately.

The following table provides for the comparison of costs for both Options.

The summary of cost data indicates that the new system with 10 % more coverage, including about 140,000 EUR capital investments, will reduce costs of the service in 2025 by 12% without changing the final destination of waste.

Comparative costs for scenario 0	Current service costs (EUR/2019)	Option 1 Transportation to deposit site	Option 2 Transportation to landfill	% change
GRANDTOTAL INVESTMENTS		EUR 140.833	EUR 140.833	0%
Operation costs		EUR 170.857	EUR 229.913	35%
Amortization costs		EUR 8.168	EUR 8.168	33%
Administration costs		EUR 16.112	EUR 21.427	33%
Net income		EUR 7.161	EUR 9.523	33%
GRANDTOTAL OPERATIVE COSTS	246,082	EUR 202.298	EUR 269.032	33%

These calculations suggest that installation of the new system including required capital investment and the disposal of waste to the landfill of Bushat, will cost to the municipality of Malësia e Madhe the difference

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

of only 23,000 EUR in exchange of a better coverage, better service quality and an substantial improvement from the environmental aspect.

The other alternative for the same targets and capital investments, but with a clear and major environmental benefit due to the transfer of wastes to the landfill of Bushat, will yield a cost increase by only 9%, including a major improvement in the service quality

Cost of MSW collection, transportation, disposal and treatment to Bushat landfill as compared to current disposal site, Kurbin

A revised and adjusted collection system is designed by URI as part of the Local Waste Management Plan to become effective starting by 2021 towards 2025. The new system is designed in two alternatives:

1. MSW are disposed to the current disposal site;
2. MSW are disposed to the landfill of Bushat.

According to this new system, the number of itineraries is reduced in 5, and the distance of each truck to the landfill and back to the parking lot is also calculated separately as compared to the transport of waste to the current disposal site.

Based on the new system and relevant to the final destination of waste disposal, related costs are calculated as compared to the current service costs as well. The summary of cost data indicates that the new system with 10 % more coverage, including about 177,000 EUR capital investments, will reduce costs of the service in 2025 by about 53% without changing the final destination of waste.

The other alternative for the same targets and capital investments, but with a clear and major environmental benefit due to the transfer of wastes to the landfill of Bushat, will yield a cost increase by about 60% including a major improvement in the service quality, but still 26% less as compared to the current costs.

The following table provides for the comparison of costs for both Options.

Comparative costs for scenario 0	Current service costs (EUR/2019)	Option 1 Transportation to deposit site	Option 2 Transportation to landfill	% change
GRANDTOTAL INVESTMENTS		EUR 177.261	EUR 177.261	0%
Operation costs		EUR 181.610	EUR 310.176	71%
Amortization costs		EUR 11.529	EUR 11.529	0%
Administration costs		EUR 17.383	EUR 28.953	67%
Net income		EUR 7.726	EUR 12.868	67%
GRANDTOTAL	471,910	EUR 218.247	EUR 363.526	67%

These calculations suggest that installation of the new system including required capital investment and the disposal of waste to the landfill of Bushat, will cost to the municipality of Kurbin a net decrease of service costs with about 108,384 EUR as compared to the current service costs for a better coverage, better service quality and an substantial improvement from the environmental aspect.

Measures to improve implementation of Scenario 0

Initial immediate changes shall ensure for:

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

- **First**, that Landfill of Bushat is accredited with the statute of a regional facility for the integrated management of MSW in the WMZ of Shkodër – Lezhë, as such it is built to serve to all municipalities in the WMZ; this has to be officially recognized first and foremost from the municipality of Vau Dejes. Approval of the Masterplan from MIE shall constitute the statute of the facility, but not necessarily to wait until that happen.
- **Second**, the agreement shall ensure for the inclusion of necessary instruments to allow for a transparent monitoring and evaluation of the performance of the landfill operator and the inclusion of necessary instruments to ensure an open discussion and transparent decision making on costs and related gate fee relevant to operation of landfill, including sanctions should the later fail to do so:
 - o Preparation of a Business Plan accessible to all municipalities;–
 - o Access to cost calculation of all municipalities;
 - o Establish a monitoring, evaluation and reporting system with the participation of representatives from all municipalities, MIE and MTE.
- **Third**, to make place for the involvement of Central Government authorities as a stakeholder with the responsibility to guarantee for the execution of the agreement, adjustment of relationship between municipalities and monitor performance. The role of Central Government should condition the planning and ensuring additional necessary financing for improvement and potential extension of the landfill and provision of other services that would convert it into a Waste Treatment Facility.

Scenario 1: Establishment of initial regional scheme basics

Scenario 1 may be developed in at least one or more options. To make the document friendlier for the reader and the user, we are taking into consideration only one option, the one which is more cost effective.

Scenario 1 implies further institutional transformation of the initial regional scheme.

This Scenario introduces changes in the management modalities:

- e. The regional landfill is owned by the municipality of Vau Dejes and managed by Nderkomunale Sh.A with operation subcontracted under a 25 years' service contract to a private operator;
- f. Transfer Stations of Malsia Madhe and Kurbin are owned and operated by respective municipalities;
- g. Long distance transportation of MSW from the TS to the landfill is subcontracted to “Nderkomunale Sh.A”. Necessary equipment to carry out long distance transportation combine one truck and three trailers of 20 tonnes each that will serve to both Malesia e Madhe and Kurbin municipalities
- h. Based on the transportation hours per week required in each municipality, the rate of use of the transportation truck is 75% for Kurbin and 25% for Malësia e Madhe, which is respectively used to share the maintenance and amortization costs of the truck and one trailer.

Cost analysis of Scenario 1 for Malësia e Madhe

For this scenario, in the transfer station one transportation truck with 2 trailers of 20 tonnes will be operational, of a fullness factor of 85%, therefore, an effective capacity of about 17 tons. The total transportation time, including time of the truck to load and to unload, reaches 1.6 hours. The truck is shared with the municipality of Kurbin.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

The above table provides for all cost items for the waste management service in Malësia e Madhe, with waste deposited and treated in the landfill of Bushat through a transfer station and hauling of waste to landfill operated under subcontract with Nderkomunale Sh.a.

Summary of costs	ALL	EUR
Subtotal investments	17.181.600	EUR 140.833
Subtotal operating costs [ALL/year]	28.313.077	EUR 232.074
Subtotal amortization costs [ALL/year]	3.234.533	EUR 26.513
Administration costs [ALL/year]	2.839.285	EUR 23.273
Net income [ALL/year]	1.261.904	EUR 10.343
GRANDTOTAL OPERATIVE COSTS [ALL/YEAR]	35.648.799	EUR 292.203

Comparison of Cost Analysis of Option 2 of Scenario 0 and Scenario 1 for the municipality of Malesia e Madhe

For the purpose of this exercise a cost analysis comparison of results of service costs is made for Option 2 of Scenario 0 to imply transport of MSW to landfill of Bushat as collected; and Scenario 1 to imply the transport of MSW to the landfill of Bushat through a TS.

Figures as in the above table indicate that direct transfer of MSW to the landfill of Bushat versus

Comparative costs for scenario 0 – version 2 and scenario 1 - version 2b	Transportation directly to LF (Option 2, Scenario 0)	Transportation through TS – one truck (Scenario 1)	% change
GRANDTOTAL INVESTMENTS	EUR 140.833	EUR 140.833	0%
Operation costs	EUR 229.913	EUR 228.849	-0.5%
Amortization costs	EUR 8.168	EUR 17.644	116%
Administration costs	EUR 21.427	EUR 22.184	3.5%
Net income	EUR 9.523	EUR 9.860	3.5%
GRANDTOTAL OPERATIVE COSTS	EUR 269.032	EUR 278.537	3.5%

transportation through using a Transfer Station only for the purpose of operationalization of transportation costs as part of the overall cost for the management of the service look like even, the difference is only 3.5% higher as compared Option 2 of Scenario 0; most of the difference is due to higher amortization costs which are related to the TS facility and equipment that are used for its operation.

Cost analysis of Scenario 1 for Kurbin

For this scenario, in the transfer station one transportation truck with 2 trailers of 20 tonnes will be operational, of a fullness factor of 85%, therefore, an effective capacity of about 17 tons. The total transportation time, including time of the truck to load and to unload, reaches 2.5 hours. The truck is shared with the municipality of Kurbin.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Summary of costs	ALL	EUR
Subtotal investments [year]	21.625.800	EUR 177.261
Subtotal operating costs [year]	38.494.523	EUR 315.529
Subtotal amortization costs [year]	3.288.555	EUR 26.955
Administration costs [year]	3.760.477	EUR 30.824
Net income [year]	1.671.323	EUR 13.699
GRANDTOTAL OPERATIVE COSTS [ALL/YEAR]	47.214.878	EUR 387.007

The above table provides for all cost items for the waste management service in Kurbin, with waste disposed and treated in the landfill of Bushat through a transfer station and hauling of waste to landfill operated under subcontract with Nderkomunale sh.a

Comparison of Cost Analysis of Option 2 of Scenario 0 and Scenario 1 for the Municipality of Kurbin

For the purpose of this exercise a cost analysis comparison of results of service costs is made for Option 2 of Scenario 0 to imply transport of MSW to landfill of Bushat as collected; and Scenario 1 to imply the transport of MSW to the landfill of Bushat through a TS.

Comparative costs for scenario 0 – version 2 and scenario 1 - version 2b	Transportation directly to LF (Option 2, Scenario 0)	Transportation through TS – one truck (Scenario 1)	% change
GRANDTOTAL INVESTMENTS	EUR 177.261	EUR 177.261	0%
Operation costs	EUR 310.176	EUR 315.529	1.7%
Amortization costs	EUR 11.529	EUR 26.955	134%
Administration costs	EUR 28.953	EUR 30.824	6.5%
Net income	EUR 12.868	EUR 13.699	6.5%
GRANDTOTAL OPERATIVE COSTS	EUR 363.526	EUR 387.007	6.5%

Figures as in the above table indicate that direct transfer of MSW to the landfill of Bushat versus transportation through using a Transfer Station only for the purpose of operationalization of transportation costs as part of the overall cost for the management of the service look close, the difference is only 6.5% higher as compared Option 2 of Scenario 0; most of the difference is due to higher amortization costs which are related to the TS facility and equipment that are used for its operation.

Recommendations for the Municipalities of Malesia Madhe and Kurbin in the sight of the regional dimension

1. Malesia e Madhe and Kurbin to create sufficient resources for the transfer of MSW to the landfill of Bushat starting at least from 2021 or even earlier should financial support is provided to them from other external sources,
2. Parallel to that the MIE and MTE should budget for closing of existing disposal sites and conversion of these sites as destinations for the disposal of inert waste,
3. Both municipalities should approve and implement LWMPs,

4. Both municipalities should start with practicing waste avoidance initially through individual home composting and gradually to start implementing composting,
5. BtF or other donors should support both municipalities to implement their new LWMP in:
 1. Finance the costs for transportation and disposal of MSW to the landfill of Bushat,
6. Finance capital investments for municipalities to implement the LWMP with particular priority given to the practicing of individual composting,
 - a. Support with education and awareness materials and activities,
7. Support with intermediation to involve line ministries to providing financing for closure of existing dumpsites,
8. In the long term municipalities should arrange all technicalities and identify funding for construction of Transfer Stations,
9. If a regional scheme shall be established and integrated management of MSW through waste reduction modalities, the transfer stations shall become grounds for facilitation of activities of for the management of other waste streams
10. The technical assessment of current conditions and design and financing the implementation of measures that shall ensure the quality and safeness conditions of the landfill of Bushat;
11. A Feasibility Study at a complete scale is necessary to be conducted for the assessment of all regional infrastructure network of the Shkodër – Lezhë WMZ.
12. Finally the Steering Committee – monitoring Board should be established while initial steps for the operationalization of the scheme will take place

Steps to Implement a Phased Operational Scheme for the Regional Catchment Area

Beyond as above, design a development and management model - scenario and implementation action plan based on a three - phase implementation approach would apply:

1. Brown - Phase 1: Municipalities of Malesa e Madhe and Kurbin dispose heir waste to Bushat landfill, closure of existing disposal sites will follow, 2020 – 2021;
2. Grey – Phase 2: to incorporate Puke and Fushe Arrez in the scheme at a later stage, one Transfer Station is build and operated there, landfill of Bushat improved, waste avoidance through small scale and individual composting is progressing, and differentiated collection of recyclable waste is piloted vastly in urban areas, 2022 - 2025
3. Green – Phase 3: to incorporate Mirdite municipality in the scheme as the final stage, Transfer Stations I Malesia e madhe and Kurbin are build and become operational, institutional transformations are extended, a MBT is operational in the landfill of Bushat, beyond 2025.

Scenario 2: Establishment of an integral regional scheme

Scenario 2 might be developed also in two options and is characterized by extensive institutional changes and adoptions of a broad management of the integrated network of the regional infrastructure for the treatment and disposal of MSW. No costs are calculated for Scenario 2.

Option 1: Transformation of “Nderkomunale Sh.A”

According to this option, institutional and organizational changes take into consideration the transformation of Nderkomunale sha into a regional organization, as for the following order of action:

- c. Nderkomunale Sh.A is transformed into an Inter Municipal Entity of Joint Competence (EJC), organized as a JSC which shares are allocated to member municipalities based on the number of population as enshrined in an Inter Municipal Agreement.

The JSC that shall be created based on the IMA and shall be responsible for the management of the landfill of Bushat

- d. Transfer Stations of Malsia Madhe and Kurbin (when to become operational) are owned by respective municipalities,

In a later phase the TS of Mirdite and Puke – Fushe Arrez, are become operational owned and managed by respective municipalities.

Option 2: Creation of Entity of Joint Competence for the entire regional infrastructure

This option extends the scale of the regional organization through the establishment of an entity that shall be in charge to manage all regional infrastructure of temporary storage (TSs), long distance transportation and the facilities of final treatment and disposal:

- c. An Entity of Joint Competence is created based on an overall IMA of municipalities in Shkodër – Lezhë WMZ.
- d. The EJC organized at the format of a JSC is created for the management of regional infrastructure including the landfill of Bushat and TSs of Malesia Madhe and Kurbin (including other infrastructure that shall be developed in the latter phases of Masterplan implementation) and the long distance transportation of MSW to the landfill.

For the purpose of further development of institutional structure relevant to management of the INWTF, should the mayors would expressed that a newly established Joint Stock Company that shall be responsible for the management of the INWTF to include the service delivery of MSW reception at Transfer Stations, hauling of these waste to the WTF and TS in Shkodër-Lezhë and transportation for final treatment to the landfill of Bushat, the recommend Option 2 of 2nd Scenario, would be the most appropriate format for a full regional scale of an inter-municipal set – up of MSW management in the Shkodër - Lezhë WMZ.

1. Preface

Development of this document is based on the Terms of Reference on the “Preparation of a Transport Model (incl. transfer stations) at Regional Scale and Inter-municipal institutional set-up (Shkodër-Lezhë catchment area)” that have been issued by the Project “Bashki të Forta” implemented from “Helvetas Swiss Intercooperation” with funding of “Swiss Cooperation and Development in Albania”. The document is prepared by Urban Research Institute that has taken this mandate from Helvetas Swiss Intercooperation under the contract C-021/2019/1.

2. Introduction

The purpose of this document is to decide and implement a technical, institutional, contractual and financial solutions in order to make operational a regional scheme and the transfer of the waste from Malesia e Madhe and Kurbin to Bushat landfill by the end of 2020 and onward. In addition, based on the current situation and other models that have been already developed in the country, the document is to develop the institutional arrangements for a potential regional Entity of Joint Competence (EJC) assigned to realize the integrated management of MSW in the Waste Area of Shkodër-Lezhë. The proposal takes advantages and is based on the law 139/2015 “on the local self government”. The institutional arrangements for the regional EJC shall be based on:

- A revised regional scheme for integrated waste management, taking into consideration the construction and operation of Transfer Stations (TSs) in the municipalities of Malësia e Madhe and Kurbin and final disposal of waste in the Landfill of Bushat;
- The Regional Scheme for the Waste Area of Shkodër-Lezhë taking advantage as per the definition of the draft Master Plan, otherwise defined as “Elaboration of a Sector Study for Investment Demand Integrated Solid Waste Management (ISWM) in Albania, 2018”, financed by KfW on behalf of the Ministry of Infrastructure and Energy (MIE);
- The willingness of municipalities within the selected WMZ to enter into a Inter-municipal Agreement (IMA) that will lead to the development and establishment of the desired arrangements for the EJC within the selected WMZ.
- The document will also provide for the founding charter or the statute of the EJC.

The proposed arrangements will bring effective and practical solutions to address problems related to management of IMSW, in reference and the fulfilment of the specific obligations that derive from the law nr. 10 463/2011 “On the integrated management of waste” as amended, and of the Waste Framework Directive 2008/98 of the EC and EU Parliament.

The concepts contained in this report are prepared from URI and delivered under the framework of the project “Strong Municipalities – Bashki të Forta” that is financed by the Swiss Cooperation and Development in Albania and managed by Helvetas, Albania; they are based on best regional and other experiences in the country.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

The report contains the Structure for the Recommended Institutional Framework and related documents to include, but not limited, the founding charter / statute for the EJC, administrative and operational requirements.

Moreover, the report contains allocation of responsibilities to include fulfilment of the function of “policy/planner”, “client” (collection and disposal), “operator” (collection and disposal), and “monitor - regulator” for the new ISWM system in the selected WMZ; and Options and Recommendations for Service Delivery.

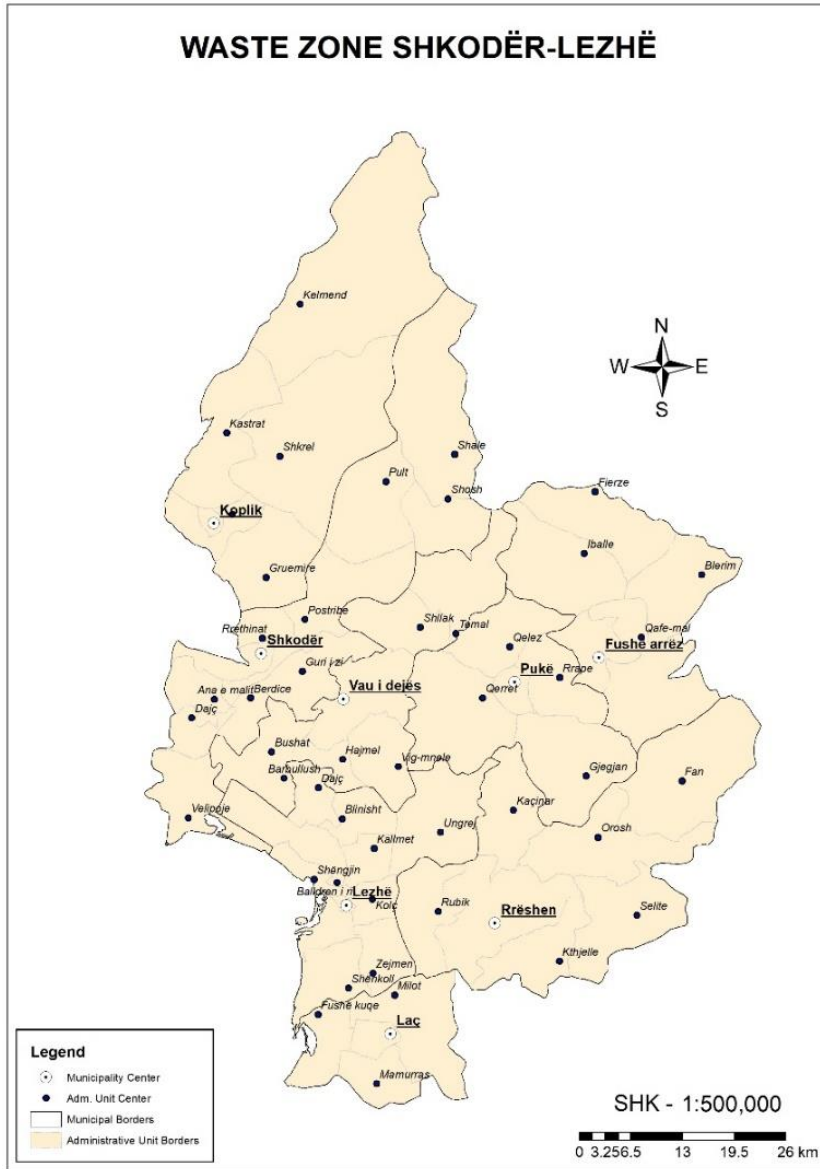
The report will also contain Options and Recommendations for Waste Management Service Delivery through the recommended institutional framework that will be identified and assessed and that are permitted in accordance with the legal framework.

3. Current MSW Management in the Shkodër-Lezhë Waste Area

3.1. Brief description of the Shkodër-Lezhë Waste Area

The Waste Management Area of Shkodër – Lezhë is composed of eight municipalities to include, Malësia Madhe, Shkodër, Vau Dejës, Pukë, Fushë Arrëz of the Region (Qark) of Shkodra and Lezhë, Mirditë, and Kurbin to compose the Region (Qark) of Lezhë as in the figure below.

Figure 1: Waste Management Area of Shkodër – Lezhë



Some of the Municipalities of Shkodra and Lezhë Region have had the support and have been for a long-time partner of *dldp*. During 2014-2018, four out of eight municipalities (Shkodra, Lezhë, Malësia e Madhe and Puka) have been supported to design and approve Local Waste Management Plans, which are currently being revised under the assistance of “Bashki të Forta” programme. Meanwhile, the other four municipalities (Vau Dejës, Fushë Arrëz, Mirditë and Kurbin) are under the process of preparing new Local Waste Management Plans; until now the baseline analysis for the service have been prepared from URI for all eight municipalities

In 2010 two Regional Plans on IWM for the Shkodra and Lezhë Regions were drafted; nevertheless, these plans were not officially approved and therefore did never become effective; at current status these plans are total outdated and helpless in the view of the country's readjusted vision for the integrated management of MSW.

Since 2010, there is a regional sanitary landfill in Bushat, which was planned for both Regions of Shkodra and Lezhë for a lifetime of about 25 years. Based on earlier agreements that were signed between these municipalities and the former commune of Bushat and as transferred to the new municipality of Vau Dejës three municipalities (Shkodra, Lezha and Vau Dejës) are allowed so far to make use and dispose their MSW in this landfill, while the other five use their own disposal site.

“Ndërkomunale Bushat sh.a”, a joint – stock – company, which 100% of shares are owned by Municipality of Vau i Dejës, is the Manager of the landfill of Bushat. The Manager has outsourced the operation of the landfill under a Service Contract to a private company namely “Becker Albania sh.a”. Due to prize disputes for several years between former commune of Bushat and the neighbouring municipalities, quantity of waste received from Landfill of Bushat was estimated lower than planned, affecting the operation and efficiency of this facility.

As it is reported from Ndërkomunale Sh.a, the Landfill of Bushat is designed for a total capacity of about 1,000,000 ton over a period of 25 years for an annual throughput of about 50,000 ton/year. The designed capacity is achieved with an additional investment of about 700,000 Euro which is carried out in 2017. Managers² of the landfill report that so far about 250,000 tonnes or about 1/4th of the designed capacity of the landfill is utilized. In the meantime, the Manager of the landfill has required for an extension of the facility with two additional cells; the first one with the capacity of 300,000 ton, and a second one with the capacity of 400,000 ton, which all together will extend the theoretical capacity of the landfill up to 1,450,000 ton, that for the same annual theoretical throughput of about 50,000 ton/year would extend the landfill life for an additional timespan of about 29 years over 2020. According to a questionnaire which is released from “Ndërkomunale sh.a”, the company has requested to MIE an investment amount of about 1.8 million EUR to improve the standard and extend waste disposal surface for the required capacity.

Taking into consideration the calculation of generation for the amount of MSW in the whole area of Shkodër – Lezhë WMZ at about 91,037 ton/year and assuming a theoretical waste reduction potential calculated at about 14,712 tonnes/year, the calculated throughput with destination the landfill of Bushat is estimated at approximate amount of about 76,325 tonnes/year, the remaining theoretical lifespan for the facility is calculated at about 15 to 19 years starting from 2020³.

A regional scheme for long distance transportation and brief or transitory held of MSW in large size containers in a Transfer Stations, in one side and application of integrated waste management methods on the other side, would increase the quantities of waste shipment to the landfill, and will require an institutional organization revision and reallocation of responsibilities involving other municipalities. These transformations would raise the awareness and obligation of all municipalities to use the landfill as a final destination for disposal and treatment of MSW in WMZ. Therefore, this would lead to the final closure of

² Data are based on the questionnaire released from the Manager of the landfill in 2020.

³ Calculations for the capacity and the lifetime of the landfill of Bushat are broad and do not take into consideration the compression of waste due to the weight over the years.

existing dumpsites and create best technical and technological conditions for an integrated management of MSW in the whole waste catchment area. In order to reach the regional scaling, a network of Transfer Stations and a Mechanical and Biological Treatment facility for MSW treatment are foreseen and therefore required based on the conclusions as reached from the draft Masterplan; which number and location however, shall be subject of a feasibility study that would lead to an effective transport optimisation scheme for the whole Waste Management Area).

3.2. Population

Harmonization of population figures as reported from municipalities is difficult given rather important difference between numbers with reference the Civil Registry versus CENSUS 2011 and the figures as calculated from MFE for the purpose of calculation and transfer of state unconditional budget for local self-government units.

However, figures below are mostly in reference with population data as calculated using the formula⁴ of MEF which is assumed to provide for approximate number of effective resident population in designated municipalities. These figures show that the total population of the area subject of the scheme is estimated at about 413,949 inhabitants. The following population data are as in the Baseline Analysis Reports, which are prepared from URI for the purpose of designing Local Waste Management Plans, based on data as released from municipalities

Table 1: Total population in the Shkodër - Lezhë WMZ

Municipality	Lezhë	Mirditë	Kurbin	Shkodër	Malësia e Madhe	Vau Dejës	Pukë	Fushë Arrëz	Total
Population	79,648	26,599	54,666	157,480	37,823	36,663	12,463	8,607	413,949 ⁵

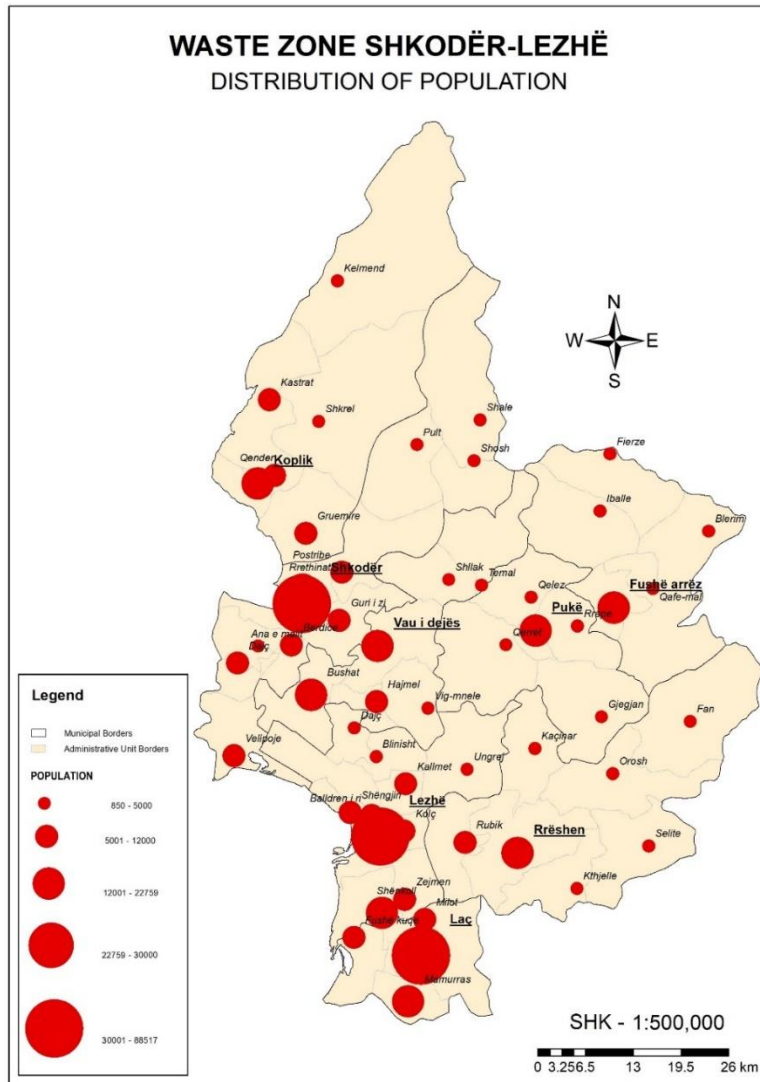
As it is shown in the following map, most of the population is concentrated in main cities otherwise the city centre of municipalities to stat with the cities of Shkodër, Lezhë, Laç and less to other towns such as Koplik, Pukë and Fushë Arrëz.

⁴ Effective Resident Population = ((CENSUS + (RCS – CENSUS) * 30%))

⁵ In the Masterplan population for the area in 2018 is estimated at about 400,910 based on the same source as of this study.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 2: Distribution of population in area subject of the study



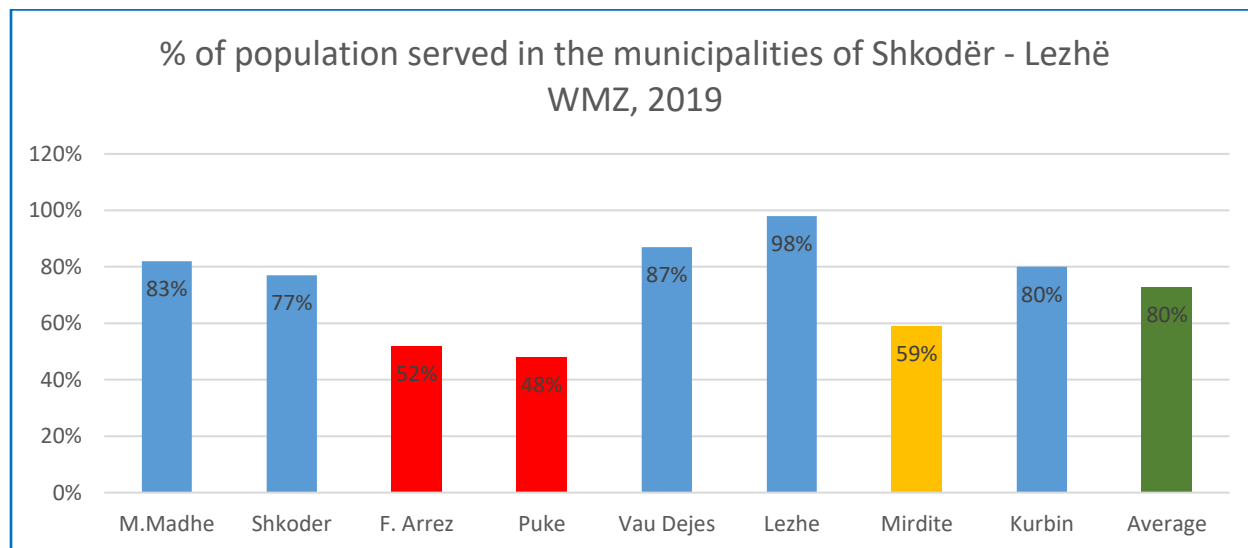
4. Evaluation of the potential for waste reduction through recycling and composting

Data on waste amount and population are used for the purpose of evaluating the potential for waste reduction through actions of various composting methods for biodegradable waste and selection for recycling of main waste streams such as paper/cardboard, plastics, metals and glass.

4.1. Waste management service

The waste management service in the Waste Area is provided by private contractors in the cases of Shkodër, Lezhë and Kurbin and by the municipalities through their public services departments in Malësi e Madhe, Fushë Arrëz, Pukë and Vau Dejës. The municipality of Mirditë delivers the service in urban area through a private company and in rural areas by itself through the public services department.

Chart 1: Percentage of population served in Shkodër – Lezhë Waste Area



According to data released by municipalities, the average service coverage for the area is calculated at about 80% with the highest achieved in Lezhë with 98 % and the lowest in Pukë with only 48%.

The territorial coverage is smaller apparently due to the concentration of population in urban areas because of the fact that an important part of the territory is mountainous and therefore road accessibility is difficult.

4.2. Waste generation

In terms of waste generation, the whole area is estimated to generate about 91.037 tonne/year. The data on waste amount and coverage in each municipality is collected through field visits during the preparation of the baseline analysis in the course for the design of waste management plans. For municipalities of Shkodër, Lezhë and Vau Dejës data on waste quantity are received from reports of these municipalities based on measured quantities as reported from the Manager of Bushat Landfill; data on waste quantity for Malësi e Madhe and Kurbin are based on field measurements carried out from URI during November 2019. Adjustments of these data are carried out by take into consideration the tourism ((Malësia Madhe) and religious pilgrimage (Kurbin), whereas data from Pukë and Fushë Arrëz are based on as reported from these municipalities.

In average terms, data collected during the baseline analysis of the waste management service in Shkodër-Lezhë Waste Area indicate that municipalities manage to cover 80% of waste collection, mostly from urban areas and partially accessible rural areas.

From the total of 91,037 ton/year of MSW calculated as the generated amount during 2019, only 59,247 tonnes/year or about 65% of the total waste generated is disposed in the landfill of Bushat; 23,173 tonnes/year or 25% in other rather controlled municipal dump sites; whereas the difference of almost 8,617 tonnes/year from the total of waste generated or 9% is supposed to be disposed in total uncontrolled sites. The table below provides for a detailed distribution of MSW as of the calculated total generated.

Table 2: Designation of MSW as compared to the amount generated (ton/year) in the Shkodër - Lezhë Waste Area

Waste Management in Shkodër-Lezhë WZ (t/y)	Present all WMZ, 2019	% as of generation	Next step including MMadhe+Kurbin	% as of generation
Generated	91,037	100%	91,037	100%
Collected	82,420	91%	82,420	91%
Disposed in Bushat Landfill	59,247	65%	76,353	84%
Disposed in dumpsite	23,173	25%	6,067	7%
Not disposed	8,617	10%	8,617	9%

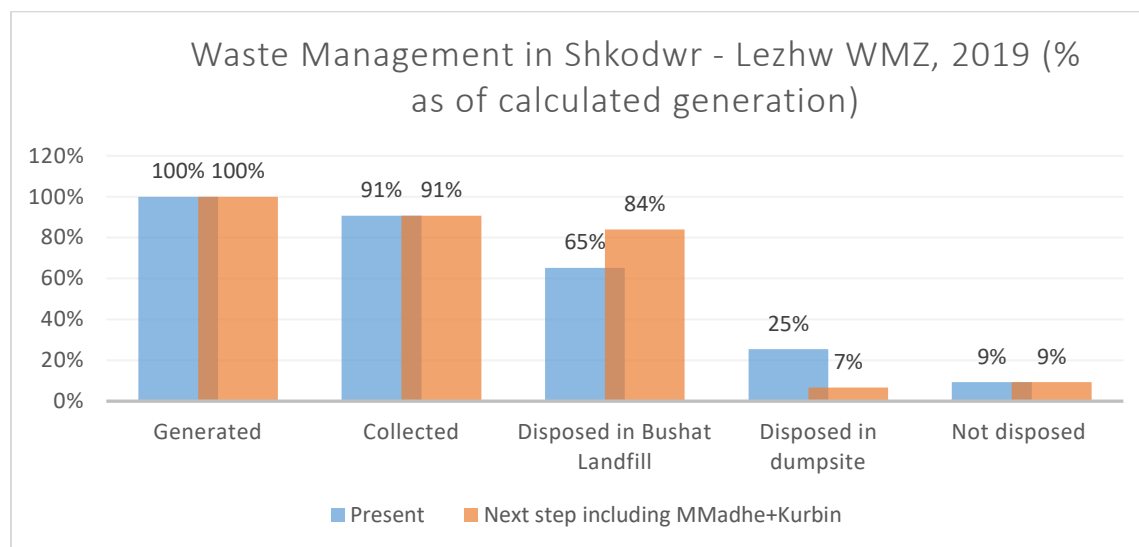
Transfer of MSW collected in Malësia e Madhe and Kurbin to the landfill of Bushat will ensure that 84% as compared to 65% of the waste collected shall dispose and treated accordingly, with only 16% as compared 35% of waste left either disposed in dumpsites or uncontrolled sites. This shift will bring a substantial improvement of environment situation in the Shkodër – Lezhë WMZ. The graph below illustrates the results as shown in the table above.

While the Landfill of Bushat provides for some treatment of MSW, including recently rehabilitated disposal site of Puka, all the other dumpsites are not operated and nor treatment is provided at all.

The following charter shows distribution of waste disposal and overall waste management in the Shkodër – Lezhë WMZ

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Chart 2: Distribution of MSW disposal in the Shkodër - Lezhë WMZ



In the table below is presented an overall situation of waste generation in Shkodër – Lezhë Waste Area. As it can be noted, the total population served in the zone is around 332,468 habitants or 80 % of the total population living in the area.

Meanwhile, the total waste collected is 82,420 [ton/year] versus the total of 91,037⁶ tonnes/year calculated as generated in the area. The generation is calculated taking into consideration an average generation rate of approximately 0,56 kg per capita, which varies from the 0.22 [kg/cap/day] in Vau Dejës to 0.96 [kg/cap/day] in Shkodër ⁷ representing the municipality with the highest rate of generation which are typical for urban areas and the assumed amount of 0.29⁸ kg/cap/day for population in remote rural areas that are currently not covered with the collection service.

Table 3: Waste management of MSW in Shkodër - Lezhë WMZ, 2019 (tonnes/year)

Municipality	Malësi e Madhe	Shkodër	Fushë Arrëz	Pukë	Vau Dejës	Lezhë	Mirditë	Kurbini	Total
Total population	37,823	157,480	8,607	12,463	36,663	79,648	26,599	54,666	413,949
Served population	31,411	121,463	4,458	6,041	31,894	77,663	15,778	43,760	332,468
% of served population	83%	77%	52%	48%	87%	98%	59%	80%	80%
Generation per capita	0.42	0.96	0.36	0.50	0.22	0.50	0.76	0.77	0.56

⁶ Masterplan has estimated an amount of 98,201 ton/year for the same period as the current study

⁷ Per capita generation in this study are relatively lower as compared to the classes as used by the Masterplan that vary from 1.1 kg/cap/day in regional centers with population bigger than 35,000 habitants to 0.4 kg/cap/day for basically agriculture and mountainous areas.

⁸ This assumption is enforced by the requirement as it is recommended from Mr. Felix Schmidt, SDC Holding SA, Switzerland.

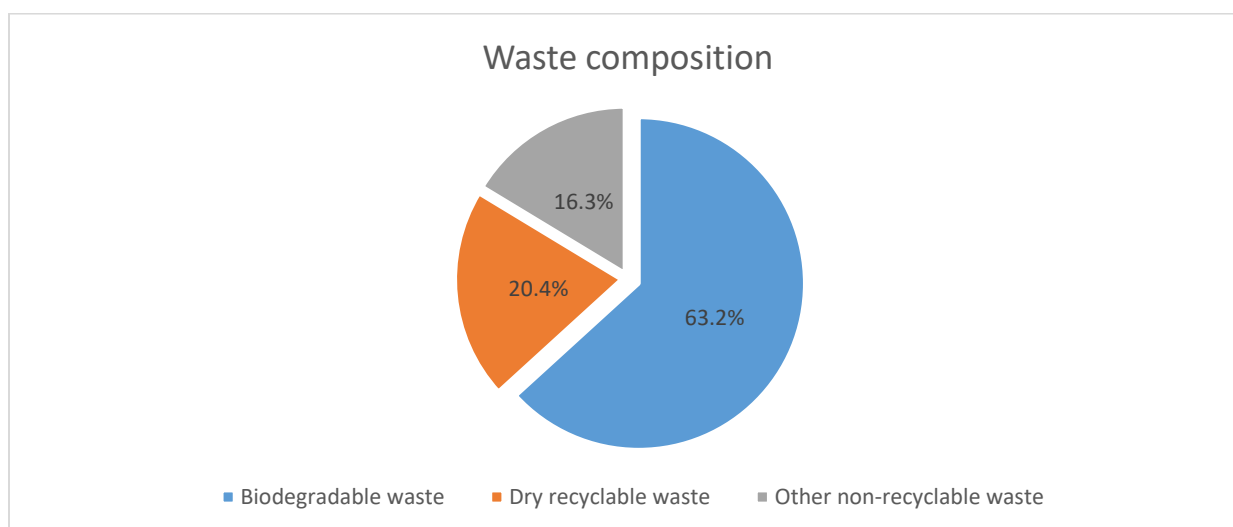
Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

MSW Collected	4,948	42,561	585	1,102	2,552	14,134	4,380	12,157	82,420
Estimated per capita not collected	0.29	0.29	0.29	0.29	0.22	0.29	0.29	0.29	0.29
MSW not collected	793	3,812	439	680	383	210	1,145	1,154	8,503
MSW Generated	5,741	46,373	1,024	1,782	2,935	14,344	5,525	13,312	91,037

4.3. Waste amount and composition

The composition analysis of MSW has been performed in course for the preparation of the National Strategy for Waste Management in Albania (NSWM) and in accordance with the specific requirements of the EU Waste Framework Directive, which analysis 12 component waste streams that are generally identified within the MSW composition.

Chart 3: Waste composition⁹



The 12 components that are identified in the NSWM are grouped than in three basic categories: (i) biodegradable waste (63.2%), (ii) recyclable waste (20.4%) such as plastic, metals and glass, and (iii) non-recyclable waste and other waste that cannot be recycled or composted (16.4%).

The table below shows for the amount of main three categories based on the % for each group and the current rate of waste collection.

Table 4: Composition of MSW by three main categories, biodegradable, recyclable and no value waste, 2019 (ton/year)

Municipality	Malësi e Madhe	Shkodër	Fushë Arrëz	Pukë	Vau Dejës	Lezhë	Mirditë	Kurbin	Total
--------------	----------------	---------	-------------	------	-----------	-------	---------	--------	-------

⁹ The waste composition according to the Draft National Strategy for Waste Management (NSWM) 2018-2033

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Biodegradable waste (tonnes/year)	3,129	26,911	370	697	1,614	8,937	2,769	7,688	52,114
Dry recyclable waste (tonnes/year)	1,011	8,695	120	225	521	2,888	895	2,484	16,838
Total amount of waste to be avoided (tonnes/year)	809	6,954	96	180	417	2,309	716	1,987	13,467

Based on the objectives for reduction of MSW as set forth in the draft NSWM 2018 – 2033, for the first phase of implementation until 20205, biodegradable waste are expected to reduce by 25% of current generation and recyclable waste by 10% of the current generation.

Based on these percentages and the current generation, the amount of each waste category to be avoided bay 2025 are indicated in the following table.

4.4. Waste reduction through composting and recycling actions

Reducing the amount of waste generated at source and avoiding the hazardous content of that waste is regarded as the highest priority according to the Waste Hierarchy established in the revised EU Waste Framework Directive (Article 4).

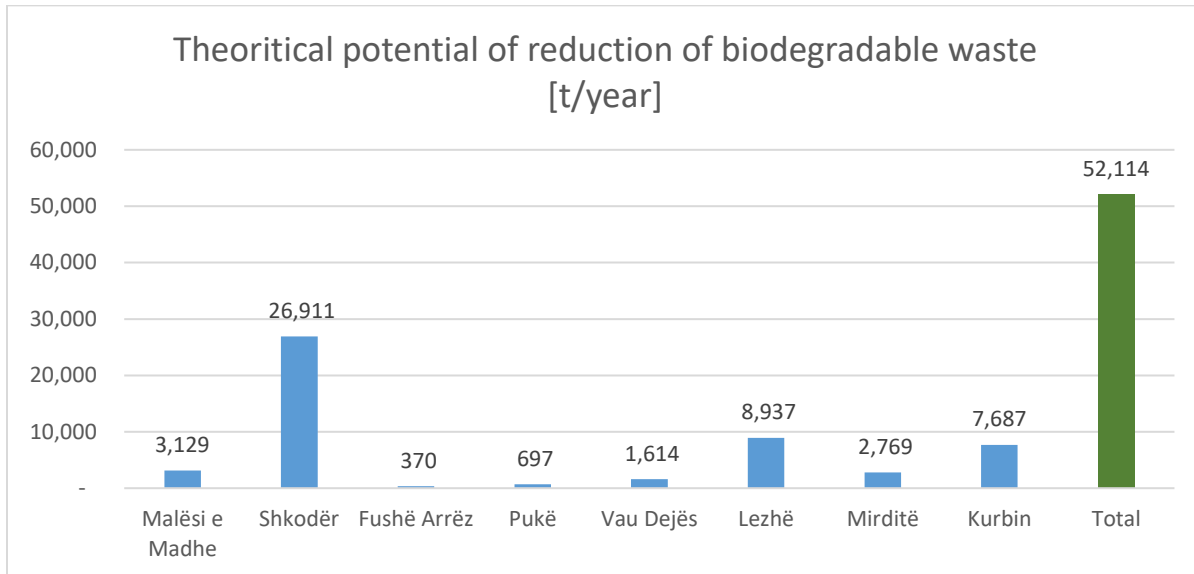
Waste prevention is linked to the introduction of economic instruments and raising awareness among the population and waste generators. Relevant economic instruments are usually introduced on a national scale, whereas awareness raising will be oriented and implemented at the regional and local level.

Any such initiatives at a regional and local level usually require support from a national program, before an effective and integrated program of actions can be delivered for the region/local level.

Nevertheless, a Regional Waste Prevention Program may be elaborated separately, this can be more effective when connected with a regional institutionalized framework. Preparation of awareness campaigns and pilot programs can start from 2020 onwards and they will be promoted to meet the long-term challenge of waste prevention and minimization at the household and business level. Waste prevention measures shall be clearly identified and appropriate qualitative or quantitative targets and indicators must be adopted in Local MSW Plans that are now under course with the support of BtF in all municipalities of the WMZ, in order to monitor and assess the progress of the measures.

Based in the composition of waste as in the chart below indicate the variance of the biodegradable waste amount for all municipalities in the region varies from 370 [tonnes/year] in Fushë Arrëz to 26,911 [tonnes/year] in Shkodër, , which shows that theoretical potential for reduction of biodegradable waste in the area is around 52,114 [ton/year] based on the amount of waste collected in 2019..

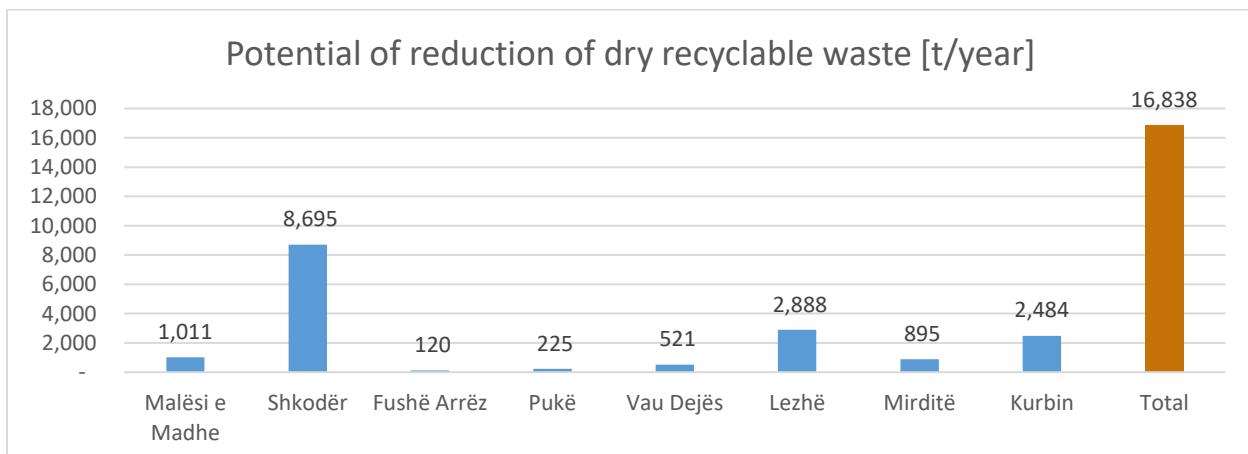
Chart 4: Theoretical potential of reduction of biodegradable waste



It is to emphasize that the above quantities stand only on the theoretical stage, because composting of all biodegradable matter is not possible therefore, measures will be taken on objectives and target bases.

The same situation is with regard the amount of dry-recyclable waste; it is calculated that the total theoretical amount of waste that can be deducted from landfilling varies from around 120 [ton/year] in Fushë-Arrëz to around 8,695 [ton/year] in Shkodër (see chart below). The total potential for reduction of dry-recyclable waste in the Shkodër-Lezhë Waste Area is around 16,838 [ton/year]- based on the amount of waste collected in 2019.

Chart 5: Potential of reduction of dry recyclable waste



The amounts indicated in the above tables and charts are indicative only, a rather detailed analysis of municipal solid waste composition with respect the Albanian Waste Catalogue has to be carried out to cover

all municipalities based on a sample to take into consideration, population, and division urban – rural, businesses from households and touristic areas. Depending on available resources BtF can take it over and assist municipalities to carry it out in the course of the project, otherwise, calculations and technologies adaptable for the reduction of the MSW shall remain always theoretical.

4.4.1. Waste Reduction Based on National Strategic Objectives for 2023

In the draft National Integrated Strategy Solid Waste Management (NISWM), a set of targets are introduced, quantifying therefor the percentages of biodegradable and dry-recyclable waste from the municipal waste that should be diverted from landfills. Three milestones need to be met by 2023, 2028 and 2033, by achieving a certain reduction percentage of MSW from landfilled within a period starting from the year 2018.

According to the NISWM, by 2023, 25% of biodegradable collected waste should be composted and 10% of collected dry-recyclable waste should also be recycled.

As it is defined in the draft NSIWM, the aforementioned objectives need to be incorporated in the Local Waste Management Plans of each municipality. Based on these objectives and in the level of successful implementation of the plans, the total amount of waste deducted from being landfilled is calculated at around 14,712 ton/year or at an average of 18 % of the total waste generated.

By applying the objectives of the Strategy over the waste categories as calculated for the municipalities of Shkodër – Lezhë area, the result of biodegradable and recyclable waste reduction as of 2023 should about 14,712 ton/year of which 13,028 ton/year biodegradable and about 1,684 ton/year recyclable. The amount by category varies from one municipality to another; the variance is mostly affected from the number of population; it is higher in municipalities with bigger number of habitants such as Shkodër, Lezhë and Kurbin and less other units.

Table 5: Waste reduction for 2023 based on national strategic objectives

Municipality	Malësi e Madhe	Shkodër	Fushë Arrëz	Pukë	Vau Dejës	Lezhë	Mirditë	Kurbin	Total
Biodegradable	782	6,728	92	174	403	2,234	692	1,922	13,028
Dry recyclable	101	870	12	23	52	289	89	248	1,684
Total reduction	883	7,597	104	197	456	2,523	782	2,170	14,712
% of reduction	17%	18%	11%	12%	17%	20%	16%	18%	18%

The chart below presents in terms of percentage the amount of waste deducted from landfilled. As it can be seen the percentage of the total amount waste that can be reduced, both biodegradable and dry-recyclable, varies from 12% in Fushë-Arrëz and Pukë up to 18% in Shkodër, Malësi e Madhe, Lezhë and Kurbin. The total potential amount of waste that can be deducted from landfilling is 18% of the total amount of waste generated in the entire waste area.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Chart 6: Potential amount of MSW reduction of biodegradable and dry recyclable waste, ton/year based on targets as of the draft Strategy

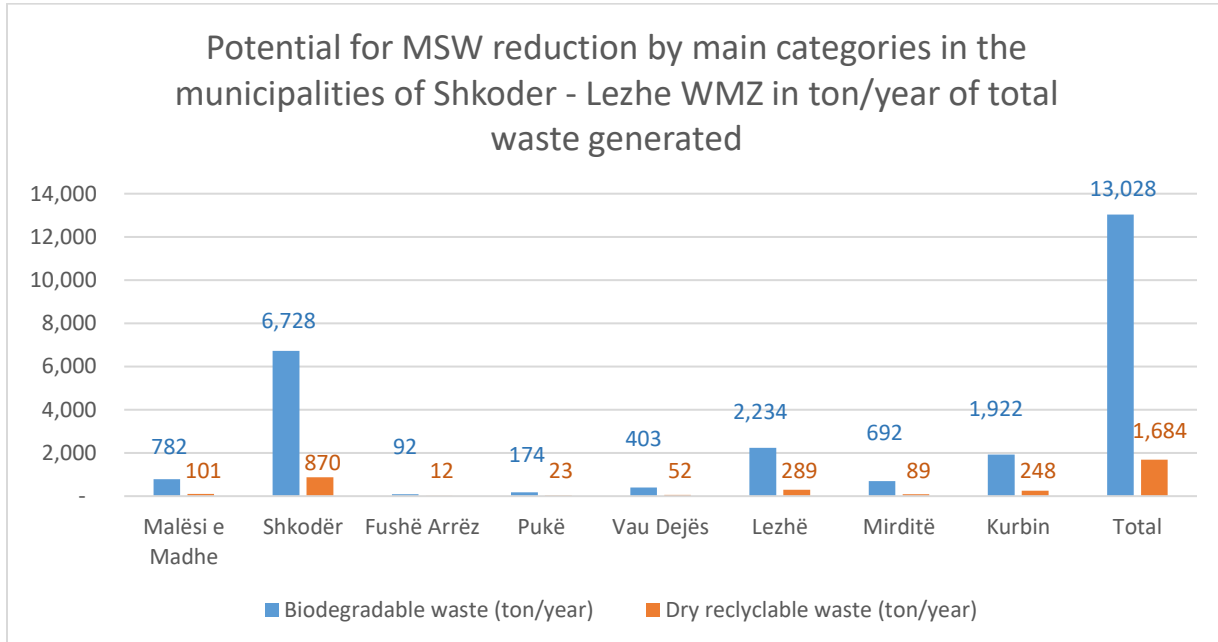
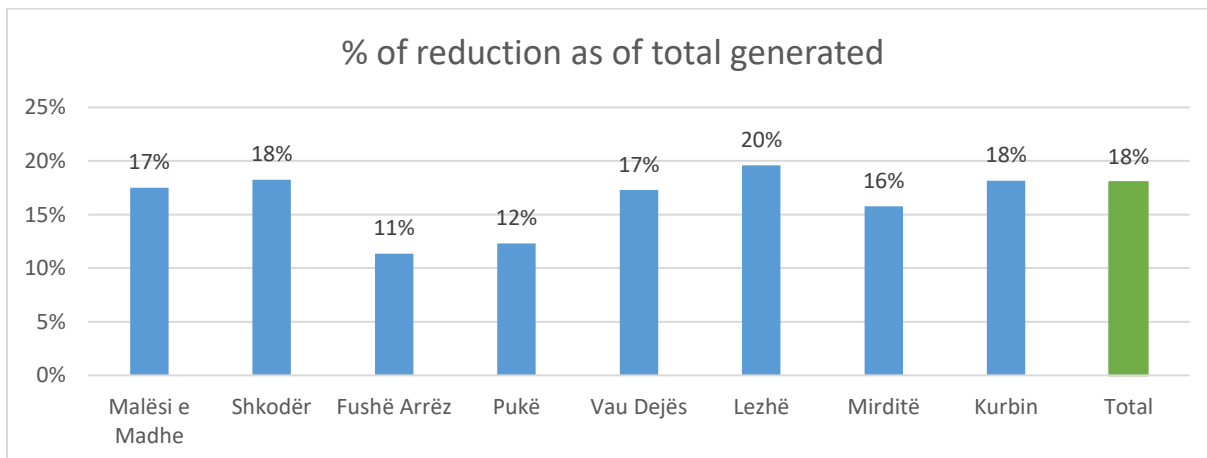


Chart 7: % of waste reduction versus of generation



4.4.2. Waste reduction actions

Waste prevention and minimization lies at the top of the hierarchy as it preserves energy and natural resources and it is the key to sustainable development. Other than where life-cycle thinking suggests

otherwise, prevention and preparing for re-use should be considered priority areas for waste management policy in future.

This suggests that it is no longer sufficient for the municipalities to simply 'encourage' through voluntarist measures and aspirations, pursuit of the hierarchy. Rather, the hierarchy needs to be given some force through policy and law. Indeed, the law on waste management and the strategy and masterplan sets out a requirement for each municipality to develop Waste Prevention Programs. This is in line with the WFD Articles 29 to 31.

4.4.3. Reduction of biodegradable waste

Biological treatment of the organic fraction of municipal wastes can be performed by composting. Composting is the aerobic decomposition of biodegradable material to produce a residue termed compost with the emission of predominantly water and carbon dioxide.

In technical terms, modern industrial composting is a thermophilic, bio-oxidative degradation process. This means that the process of industrial composting operates at temperatures in the thermophilic range (45 - 60°C) and is a biological process that oxidizes the organic matter to break it down to a more simple form; whereas at homebased the process develops at temperatures of mesophilic range (20-45°C).

Composting of biodegradable MSW may be realized by applying different methods and processes, to include from small to big scale centralized-industrial units to various methods of home composting.

Application of various composting methods relies on the amount and the potential for separate collection of biodegradable waste. For the municipalities in the area subject of this paper, we would divide three cases:

- a. The potential for reduction of bio waste is rather small in municipalities such as Fushë Arrëz and Pukë; the same could be the case even for Malësi e Madhe, Vau Dejës and Mirditë (see the table above), where cheap and individual based composting initiatives might be supported in rural communities of these municipalities.
- b. The case might be different with other municipalities such as Lezhë and Kurbin given their moderate amount of biodegradable waste they generate (see the table above). Under this case, small scale composting facilities might be built and operated from the municipalities.
- c. Municipality of Shkodra might be considered a separate case for the amount of bio waste, subject of composting that is generated in its territory. The separation at source and differentiated waste collection system might be designed and implemented and a centralized composting system could be appropriate to consider either from the municipality or the Manager of the landfill in Bushat.
- d. A fourth case, could be considered should we bring together Shkodër, Lezhë and Kurbin, which makes for a total of 10,884 ton/year biodegradable waste for composting within the limits as set forth from the objectives of the Strategy for the first phase 2018 – 2023. In such case, development of a centralized composting unit could make sense given that it would take out about 12% of the total waste generated in the area.
- e. A small scale composting might also be developed in rural parts in plane areas with agriculture activities such as the areas of most Administrative Units of Shkodër, Lezhë, Vau Dejës etc. This activity may involve 500 to 1000 families and even more, and can easily be managed by a private operator.

4.4.3.1. Home composting

Home composting is considered as a waste prevention action since it is applicable at a home basis, prior to waste collection. Home composting can be practiced in most backyards in a variety of manufactured composting bins, which differ in complexity and price. The user gradually adds organic matter to the vessel and over a period, this naturally decomposes to form compost. The high temperature will kill most weed seeds and speed up the decomposition process and depending on the climate conditions compost may be ready in about 3 months or longer.

Shopping centers, schools, restaurants and other institutions can also easily compost in pilot size, more engineered units. Some preparation of material such as cutting and mixing is desirable; the product normally satisfies the Animal By-products regulations.

Figure 3: Examples of home composting bins



Bins are commercially available from a number of manufacturers in a variety of sizes from 75 to 400 lt, whereas residence time amounts to 9-12 weeks. Home composting requires households to separate and compost their own kitchen and green waste and handle compost produced in their own garden.

As a strategic tool, home composting is addressed to people living in rural areas or urban areas with typical courtyard housing pattern; it is not particularly feasible for those living in flats. Individuals participating are mostly “keen recyclers” as effort and commitment is required, and on a second level gardeners.

Although would not be appropriate to measure the amount of compost produced under this method, the case could bring for sure a significant reduction of waste to landfill, especially for remote rural villages with difficult road access at a very low unit cost.

To illustrate the case, we take:

- 1,000 families with 4 members living in remote rural areas, which are provided with
- 300 L composting bins
- at an average price of about 80 Euro/piece,
- that gives a total investment cost of 80,000 Euro

On the other side, by assuming that one family composed of three members:

- will generate a minimum of 0.15 kg/cap/day equal 0.6 kg/family/day, or

- a total of 219 ton/year/1000 HH of compostable bio waste,
- will give a unit cost of about 2 Euro/ton

If this method is undertaken and supported with necessary investment and awareness and education support could lead to the application of a useful method especially for remote rural areas but not only, it can successfully be implemented even in urban areas with low housing typology.

Basic instructions for the application of this method are summarized in the following box.

Table 6: Basic instructions for developing home composting

Home composting using composting bins
<p>Composting is a natural process that transforms bio-household waste into nutrition product - humus for plants, contributing to the reduction of residues deposited in landfill and the reduction of carbon dioxide. The bio-waste of the kitchen and garden accounts for about 30% of the waste we generate in the home, excluding waste from meat, fish or dairy products.</p> <p>The container is placed above the ground. Solid bio residues (green and brown) are collected separately from other residues day after day until filled; for holding it should be moistened and mixed occasionally; when you see that the material inside the container has turned to a crushing dark, earth-like material then you can use this content for the plants in your yard.</p> <p>With a careful process you can compost about 200 – 300 liters of waste in 30 to 90 days. (More detailed guidelines should be developed by the City Hall in addition to introducing this method into use).</p>

4.4.3.2. Small scale composting

The proper approach depends on the time to complete composting, the materials and volume to be decomposed, space available, the availability of resources (labor, finances, etc.) and the quality of finished product required.

Community composting scheme might be considered a small scheme composting of biodegradable waste which is collected from householders and processed centrally in a centralized scheme. However, community composting schemes are typically smaller than centralized schemes, and situated within the local community. The end product is used by the householders participating in the scheme, thereby closing the loop of waste generation and use.

This type of small – scale composting might be applicable at the village level extended to a group of villages or even at the level of an Administrative Unit, involving 500 to over 1000 families.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 4: Examples of turned windrow composting system (small scale)



This system would be appropriate for kitchen, garden and crop waste from agriculture activity for a total of about 1500 tonnes/year and produce about 70 tonnes/year of final product. The system might be operated by a small private business (case of Pestove village, Commune of Vushtri, Kosovo¹⁰). The scheme is running at a capacity of about 5,000 m³ / year, with the final output packaged humus for the local market.

¹⁰ This case was investigated by URI while designing the operational plan for the commune of Vushtri, Kosove, 2017

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Table 7: Basic instructions for developing home composting

Home composting using composting bins

Composting is a natural process that transforms bio-household waste into nutrition product - humus for plants, contributing to the reduction of residues deposited in landfill and the reduction of carbon dioxide. The bio-waste of the kitchen and garden accounts for about 30% of the waste we generate in the home, excluding waste from meat, fish or dairy products.

The container is placed above the ground. Solid bio residues (green and brown) are collected separately from other residues day after day until filled; for holding it should be moistened and mixed occasionally; when you see that the material inside the container has turned to a crushing dark, earth-like material then you can use this content for the plants in your yard.

With a careful process you can compost about 200 – 300 liters of waste in 30 to 90 days. (More detailed guidelines should be developed by the City Hall in addition to introducing this method into use).

Figure 5: Composting site at the village of Pestovo, Commune of Vushtri, Kosove



Another example of small-scale composting is taken from a community in UK¹¹ to illustrate the usefulness of this method at the village or Administrative Units Scale. In order for system to work, biodegradable waste need to be separately collected. The collection of kitchen and garden waste is undertaken at the frequency of one visit to each of the villages. The number of trips carried out by the tractor for the collection of garden waste is dependent on the quantities of garden waste to be collected. The trailer on the rear of the tractor holds approximately one ton of waste, and hence if there are five tonnes to collect then five trips are made.

Table 8: Basic instructions for developing Small scale composting

Small scale composting

The scheme is running efficiently at a capacity of around 250 tonnes/ per year. The quantities of kitchen waste are fairly consistent all year round. The minimum quantity of waste collected is during is usually in February due to small quantities of small amount of garden waste. The maximum quantity of waste is collected during September, when garden waste is collected (plus the kitchen waste).

The method of composting the garden waste is that of a static pile/aerated windrow system.

The waste is heaped in a pile and left for one month. This is then turned and moved to the next heap space and left again for another month, and water is added if the heap has got too dry. This is done a total of nine times, after which it is ready to be sieved, bagged and sold. There is no shredding involved and any large pieces are simply put back into the system and go around again.

This system is rather of low cost; to set up the system about 18,000 – 20,000 EUR are estimated, with an average operating cost of about 89 EUR/ton and an avoided disposal cost of about 52 EUR/ton.

This example would be the case for many areas with a sound agriculture development activity as are most of the villages of of Administrative Units in the plain areas of the municipalities of Shkodër, Malësi e Madhe, Lezhë, Vau Dejës, but not only.

4.4.3.3. Centralized - industrial mid-scale composting

Centralized composting can be performed in an un-contained, open system or contained usually within a building. Centralized composting is meant when biodegradable waste is collected from households and taken to a central facility for composting.

Centralized mid-scale composting operations (15 to 150 t/day) targeting yard trimmings, livestock manure, food waste and some industrial organic byproducts. Because composting is environmentally friendly and allows reuse of natural resources, it is becoming a popular waste management option.

At the rate of 25 % reduction of bio-waste by 2023 based on the objectives as set forth in the draft Strategy, Shkodër, Lezhë and Kurbin may bring altogether a daily amount of 30 t/day or an annual throughput of

¹¹ The scheme is located in the south-east of England near Ashford, within the county of Kent; European Commission – Success Stories on Composting and Separate Collection, Directorate General for the Environment, 2000

about 11,000 t/year, which quantity can be classified as a mid – scale amount for centralized commercial composting operation.

Commercial-scale composting is a complex operation requiring proper process design and management. Various methodologies are applicable for centralized composting, they change from the amount of waste, technologies and relevant costs and benefits.

A. Open (non-reactor) composting systems

Open composting has been practiced for many years and has relied on placing the organic waste in piles exposed to the air. The waste is commonly formed into elongated triangular piles that are called windrows, which allow optimum exposure to the atmosphere whilst minimizing the land area taken up. Once the waste is prepared for composting, the principal control mechanism for the process is the air requirement of the microorganisms and the dissipation of the heat generated.

Introduction of air into the waste can be achieved either through active pumping of air into the waste or through the mechanical lifting and mixing of the waste to introduce air into the pile. These two approaches are called static aerated pile and turned windrow.

B. Turned windrow composting

The turning of the compost in a turned windrow system is achieved either by a specialized turning machine or by use of general-purpose front-end loaders or 360° excavators. These machines lift and mix the composting waste and introduce air into the pile and release the heat and moisture as water vapor. The turning operation is often characterized by a large cloud of "steam".

The turning operation has to be performed many times during composting and the timing will be determined by the progress of the composting process. In the early stages when composting is very active turning several times per week may be required but at the end of the process during the stabilization phase turning may only be required every few weeks.

The operation of turned windrow systems can be improved by protecting the composting waste from the rain. Rain will cause the generation of leachate that may pollute surface or ground water if released and introduces variability into the process that affects the final product quality. Protection can be provided through either semi-permeable textile layers placed over the windrows or through the construction of a roofed area where composting is undertaken. The textile approach has a low capital cost but does introduce an additional operational workload and hence increases operational costs whilst the roof option has a higher capital cost. The provision of cover also reduces wind-blown litter and provides a degree of odor control.

C. Aerated static pile composting

Static aerated pile systems, as their name suggests, are not turned during processing and the air is forced through the composting material by means of a fan and perforated pipes or floors. The windrows are formed over the aeration system and then remained there for the composting period of between 12 and 20 weeks, depending of the feedstock, until the active phase of composting is complete.

The air is typically blown upwards through the composting mass and the expelled air, moisture, carbon dioxide and heat is allowed to disperse to atmosphere. Alternatively, the air can be sucked downwards so that the air from the composting material is taken through the fan. The advantage of this downwards flow

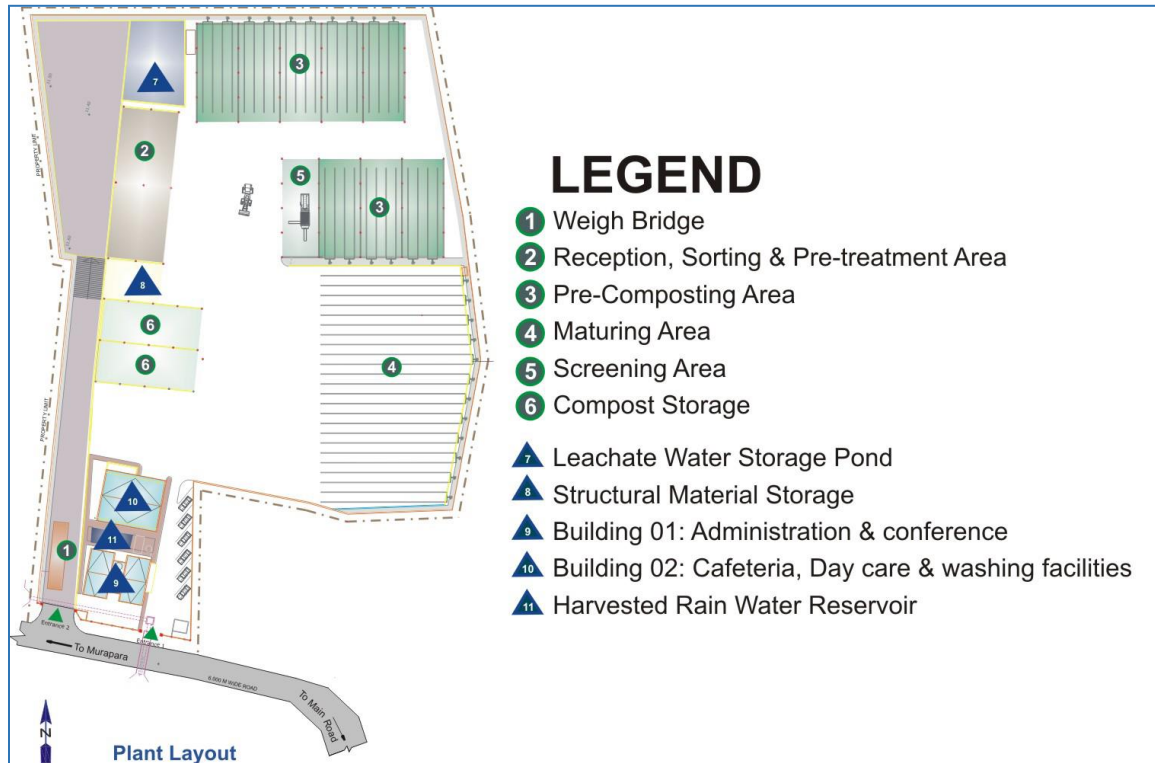
Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

is that any malodorous air can be treated, but there can be problems with compaction of the pile leading to poor airflow and potential for the material to go anaerobic.

The aerated static pile composting can be settled in open or closed areas.

To illustrate a centralized composting scheme the scheme of the city of Gironde (Spain)¹² is brought as an example.

Figure 6: Layout of a centralized windrow composting plant



The scheme covers 20 000 households, of which about 15 000 benefit from direct collection (70 % of those in the district). The composting unit is part of a complex waste treatment facility which complies, sorting for recycling, bulk waste and inert treatment and is used as a drop off center for citizens. The space dedicated to composting process is about 14, 000 m²

¹² European Commission – Success Stories on Composting and Separate Collection, Directorate General for the Environment, 2000

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 7: Waste arriving at the composting site and the final product



Similar scheme might be proposed to be installed at the landfill of Bushat, assuming that a separate kerbside collection of biodegradable waste is also set up at least in the cities of Shkodër, Lezhë, Malësi e Madhe, Kurbin and Vau Dejës.

4.4.4. Waste treated by composting

Given that little is known about modern composting in Albania, a particular attention should be set to building capacities and increase awareness and education of both public and authorities with regard systems process, technologies and benefits from the treatment of biodegradable waste.

Although this is not in our mandate, our intention in this paper is not pretend to exhausting this issue, but a few tips on treatment of waste by composting we think would be necessary for the reader to know.

Only the organic biodegradable fraction of municipal waste can be treated by composting. This is primarily kitchen and garden wastes, including left over of crops (hay, straw and similar) from agriculture activities in the field, but also paper and fines fractions can be treated to an extent, although the degree of degradation achieved is very dependent on the system used for composting.

Essentially there are two forms of feedstock for composting:

- a. source separated waste, and
- b. un-segregated wastes.

Source separation systems rely on the waste being collected separately from the other household waste and can be achieved through civic amenity sites or through curbside collections in a separate container. The quantity of material collected through source separation is limited due to the number of householders willing to participate.

Un-segregated waste for composting can range from the whole waste stream without any removal of recyclables to the composting of processed materials that have had the majority of the contamination removed by mechanical means. Thus, in un-segregated systems, the whole waste stream is targeted which can ensure 100% participation from the public.

Table 9: Technical details of centralized composting

Technical details of centralized composting

The case taken as reference implies separate collection of biodegradable waste (kitchen and garden waste), which is transported to the facility. The unit has a total capacity of 40 000 tonnes per year. The center uses the following pieces of equipment:

- ▶ two loading machines; a windrow-turning machine; a sifting machine; a tractor; a crusher.

The composting operation is performed in the open air and includes the following stages:

- ▶ reception and piling of biodegradable wastes from green bins and collection centers;
- ▶ crushing and windrow setting;
- ▶ watering and successive turning over for two to three weeks (ventilation and humidifying phases);
- ▶ sifting, two diameters of mesh are used, 10 and 20 mm in order to eliminate contaminants and oversize particles;
- ▶ maturing which lasts for five to six months.

The facility is managed by a private operator. Four people are employed specifically by the composting scheme.

The total investment is estimated at 1.4 million EUR including composting area, building and all equipment, with an unit operational cost at the range of 20-24EUR/ton and an income at the range of 10-43 EUR/ton from selling of the final product.

A. Products and residues from source separated feedstock

The quality of the compost is largely determined by the feedstock provided to the process. Relatively uncontaminated feedstocks will give rise to uncontaminated products and these are generally composted from source separated materials.

The residues from the composting process are those materials that do not readily degrade, such as wood and these can either be returned to the front of the process to be shredded or they can be disposed of. This material can represent up to 25% of green waste feedstock. Contaminants from source separated systems will be relatively low, for example in green waste it will be less than 2% or up to 10% when the feedstock is collected through kerbside collection schemes. The composition of these contaminants will vary with the scheme and will contain almost anything that could be in the mixed waste stream, but will have high concentrations mostly of plastics from various sources.

B. Mixed waste processing

The primary product from mixed waste processing is the stabilization of the waste. The composting process will remove the readily biodegradable carbon and the resulting residues will degrade slowly in the environment.

In some circumstances the composted waste can be further sorted to generate a low quality soil improver. The eventual use of this material will be limited to landfill cover or other land restoration projects.

Mixed waste processing will generate a large amount of residues such as the non-organic materials rejected by the sorting process and will mainly consist of metals, glass and plastics. Materials going into the composting process will consist of paper, kitchen and garden wastes and fines. Sorting after the composting process will remove the materials that have not been decomposed sufficiently and these rejects will contain larger proportions of paper and woody materials but also additional glass and plastics. It would be expected that all of these rejects would be either landfilled or incinerated.

C. Composting plant size

Composting is not a particularly staff intensive operation as the bulk processes occur when the waste is in piles or in the vessel. Estimates of staffing levels vary between different employers, but plants less than 25,000 tonnes per year capacity tend to employ between 2-4 staff, giving staffing rates of between 10 and 1 staff per 10,000 tonne per year capacity. As plants get larger than this the staffing levels can be estimated from a level of 1 staff member per 10,000 tonne per year capacity. There appears to be little evidence from the published data to suggest any differential between the various types of composting plant.

4.4.5. Reduction of dry-recyclable waste

The main objectives of recycling activities are to save resources and to minimize the environmental impact of waste by reducing the amount of waste landfilled. According to DCM No. 418, LGUs shall increase materials recovery from municipals waste through recycling (paper, metal, plastic and glass).

There is considerable potential for an increase in recycling activities in Shkodër-Lezhë Waste Area, as limited progress has been made to implement the principles of the waste hierarchy so far. Currently waste management mainly focuses on collection and disposal with little emphasis being given to waste minimization, reuse and material recovery.

Materials Recovery Facility

Material Recovery Facilities (MRFs) are places where wastes are deposited and then sorted and separated. The main purpose of a MRF is to sort and separate materials to produce products that meet defined specifications and so can be marketed. This is achieved, particularly in a clean MRF, by sorting the collected material into various products and removing contaminant materials.

MRFs can be classified as either clean MRFs, which treat source-separated material and recover recyclables, or dirty MRFs, which recover recyclable materials and/or a biodegradable fraction directly from unsorted dustbin waste. The size of a MRF is clearly related to the amount of material it is designed to process, and this can typically range from 10,000 tons per year to 50,000 tons per year or even higher.

A. Clean MRFs

Clean MRFs can handle material collected through civic amenity centers, as well as from curbside collection schemes. As a clean MRF can only treat source-separated material, it is important that it is able to process all the material that is collected.

A clean MRF can be designed to either handle a single stream of materials, i.e. paper is mixed with other materials during collection, or can be designed to process paper separately from other materials.

The design of a clean MRF is usually based on one of two approaches:

- A low-technology MRF where virtually all sorting is done by hand (plants may have a magnet extraction unit to remove steel cans). This approach has a low capital cost, but high labour costs.
- A high-technology MRF, which makes as much use as possible of mechanical sorting equipment, e.g. equipment to separate glass bottles from plastic containers. This results in a higher capital cost, and although labour costs are lower, some hand-pickers are still required to meet quality requirements.

The potential advantage of the low technology approach is that it is much easier to respond to changes in market conditions. For example, hand pickers can be instructed to sort alternative materials, whereas equipment designed for one purpose cannot easily be modified (and will still incur costs even if there is no market for the material it is designed to separate). The method of collection of the recyclables will also affect the design of the MRF.

The number of products that a clean MRF can produce is based on the number of materials collected and the level of sorting undertaken at the MRF.

B. Dirty MRFs

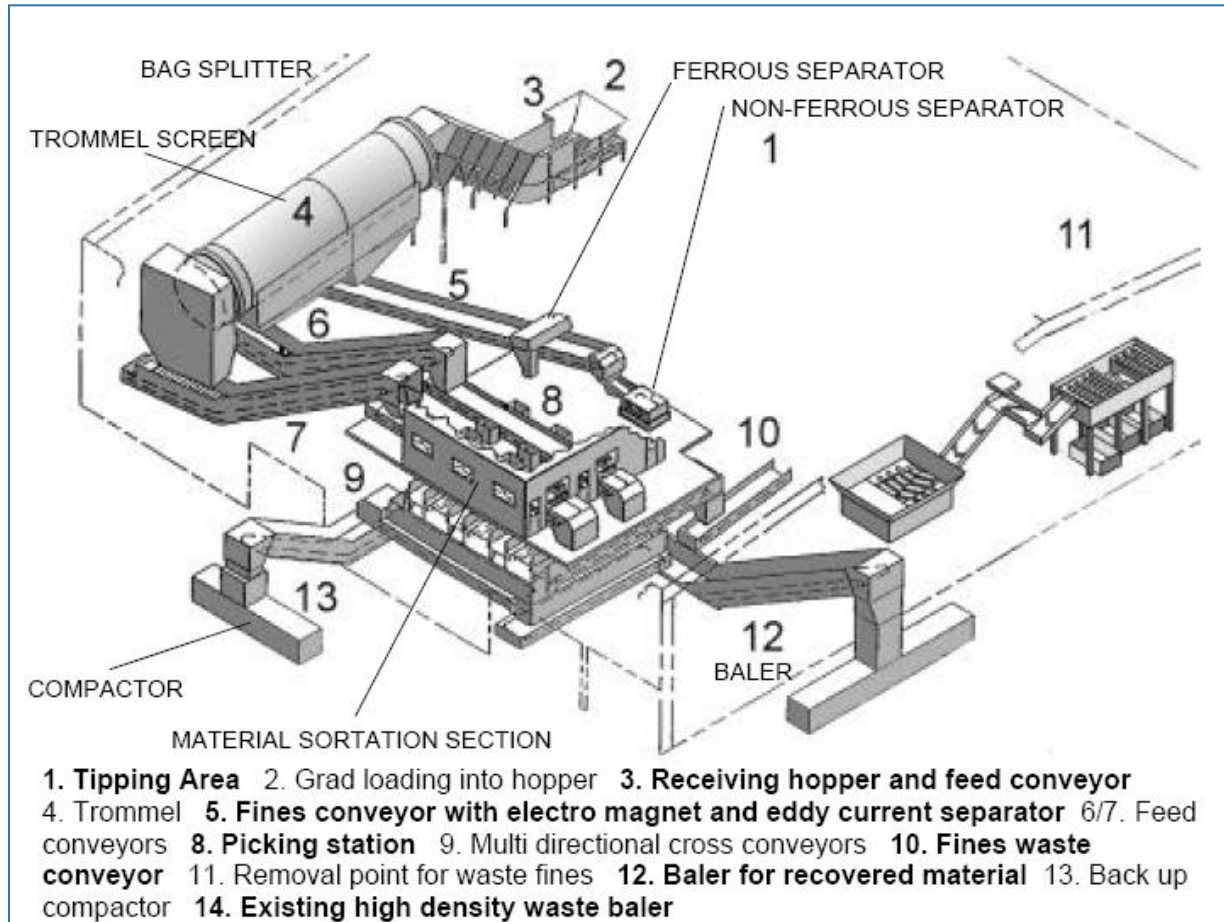
A dirty MRF treats 100% of the collected waste stream and as with clean MRFs, the design of dirty MRFs can be either simple or complicated. The main advantage of a dirty MRF is that there are no additional collection costs, and the recovery/recycling rate is determined by the efforts of the sorters at the plant, rather than by the willingness of the public to participate in a source separation scheme.

However, the main disadvantage is that the recovered materials are not as clean as those recovered from source separated wastes because they have been in contact with other materials, particularly food scraps, in the dustbin.

Dirty MRFs can also be used in order to recover biodegradables and produce compost. However the compost is of low quality which limits the potential of market for the product. An alternative form of dirty MRF, which could be considered, is a plant which produces refuse derived fuel (RDF), as this is able to recover metals and still produce a reject stream which could be composted. These kinds of plants are also called MBT (Mechanical – Biological Treatment Plants) and are also discussed on the following paragraphs.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 8: Typical layout of MRF plant (source website www.hse.gov.uk)



Costs

It is difficult to give a good estimate of either the capital or operating cost of a "typical" MRF, as every MRF is different in design and the way it operates, unless a conceptual design and is carried out under a comprehensive Feasibility Study. A MRF, particularly a clean MRF can range from a simple low-technology (hand-picking) system constructed in an existing building to a high technology (mainly mechanical sorting) system constructed in a new building which may well include other facilities, education centres, etc. The size of the MRF (in terms of the tonnes of waste processed per day) will influence the amount of sorting equipment required and hence the capital costs. Operating costs will be affected by the numbers of different waste materials to be processed. Capital investment in a MRF, even the largest is unlikely to exceed €5-6 million but it is quite possible to equip a low-technology MRF for €500,000.

Performance - Availability and Experience

Both clean and dirty MRFs have a high availability (estimated at 85%) but MRFs can and do suffer breakdowns, which reduce their availability. Spare parts are generally readily available for dirty MRFs and on-site maintenance staff are able to quickly complete repairs.

Where a MRF has automated sorting equipment (such as equipment to sort plastic by polymer type) repairs may well take longer because of the need for specialized repair staff from off-site.

Although the availability of specialized sorting equipment will be lower than that for the simpler equipment such as conveyors and screens, the design of the MRF must allow it to process the bulk of material if the specialized sorting equipment is not operational.

Implementation Issues

There are a number of implementation issues that should be considered prior to opting for a MRF. Some of these will depend on the waste management strategy adopted but others depend on the risks associated with financing and the operation of the MRF and the markets for the MRF products. The main risk issues for a MRF are the quality of the products, the stability of markets for the products it produces, and the prices that can be obtained for those products.

A. Financing

Financing the capital cost of a MRF is likely to be undertaken by a private sector company and the financial risks will be assessed within usual commercial constraints. The main advantage to a Local Authority of private sector financing is that they do not have to provide any funding for the MRF, or for any further development that might be required. Other sources of funding might be development programs financed by various donors as donations or at a low loan rate, in this case financial risk will be rather lower as compared when funding is from private sector.

The sale of sufficient product and the revenue obtained from these sales clearly helps to reduce the net operating cost of the MRF. Consequently, the financial risk can be reduced if the MRF is able to produce good quality products and achieve a satisfactory income from them.

B. Quality of products

It is important that the MRF produces high quality material to maintain its markets for the recovered products. For a clean MRF, this will require good quality control during collection to minimize the amount of contaminants that need to be removed from the recovered products. There are also well established standards and specifications for recovered paper and metals, which help to ensure a consistent quality of product.

Materials recovered from a clean MRF will be of high quality and easy to sell provided there are sufficient markets for the recovered products. Markets are readily available for paper and metal recovered through clean MRFs although the revenues obtained may be low.

Materials recovered from a dirty MRF will be of lower quality and more variable because of the level of contaminants which cannot easily be separated when the material is recovered.

C. Stability of markets for recycled/products

The main materials which MRFs recover are paper, metals and plastics, although glass and textiles are recovered to a lesser extent. There are numerous markets for metal and paper and so consequently the stability of these markets is generally very high. The stability of markets for plastics is low at the moment but could vary depending on the policies the EU will adopt in the near future, whilst those for glass and textiles are highly variable.

5. Institutional and organizational aspect of the regional scheme

5.1. Masterplan Vision for IMMSW in Shkodër – Lezhë Waste Area

The institutional arrangement for the Shkodër – Lezhë Waste Area, as quoted and in accordance with the Sector Study Investment Demand Integrated Solid Waste Management (Masterplan), implies the regional infrastructure for the transportation, disposal and treatment of MSW, which is composed of:

1. Existing Landfill of Bushat, (with additional improvement with regard treatment, environment efficiency, leachate treatment and gas capture and extension of the surface foreseen during Phase I, Phase II and III);
2. Four Transfer Stations of ramp type (Malësia e Madhe, Kurbin, Mirditë, Pukë-Fushë Arrëz) foreseen to develop during Phase I ;
3. Construction of a MBT (with biology drying technology (for RDF production) in the territory of the landfill, (Phase II)

The existing regional sanitary landfill of Bushat shall be used as a regional facility for the entire Waste Area.

According to the Masterplan, separate collection of dry recyclable waste is foreseen to be introduced during Phase 1 (2018 – 2022) with increasing capacities over the coming years, whereas separate collection of organic waste is proposed for i implemented during Phase II (2023 – 2027) along with the construction of the MBT that would allow mix waste to be delivered to the facility prior of final disposal to the landfill.

Despite the regional infrastructure, the Masterplan has foreseen that municipalities in the Shkodër – Lezhë WMZ may develop their local facilities to include:

- Clean MRF,
- Windrow and home composting, and
- Inert waste landfill.

In addition, the Masterplan estimates introduction of full automated in-house composting along, while rehabilitation and closing of existing dump sites is planned.

From the Masterplan, a MBT with an investment cost of about 14.9 million Euro is planned for implementation during the 2nd phase (2023 – 2027) with a considerable operation accost of about 2.2 Million Euro during phase 2 and about 2.0 Million during phase three; while windrow composting is encouraged to develop at local level with an estimated investment cost of about 1.65 Million Euro along the three phases of the plan development, including separate collection of bio-waste that would require an overall investment of about 925,000 Euro at local level. In addition, an amount of about 10,0 Million Euro are foreseen for the rehabilitation and extension of the landfill during all three phases of the master plan implementation, including an annual operational cost that varies from 461,000 Euro during 1st phase to about 170,000 Euro during 2nd phase down to 167,000 Euro during phase 3.

Implementation of the Masterplan would increase the unit costs from 38 Eur/t during 1st phase (2018 – 2022), to 85 Eur/t during 2nd phase (2023 – 2027) up to 95 Eur/t during the 3d phase (2028 – 2032) of the implementation plan.

Cost increase shall be associated with the need to increase tariff respectively from 19 Eur/hh/year to 49 Eur/hh/year up to 61 Eur/hh/year.

Other estimates as reported from the operator of landfill specify that at the initial phase an amount of 3.7 Million Euro are required for the rehabilitation, construction and equipment. The managers of the landfill have already required to the MIE an investment fund of about 1.8 Million Euro for the next two years designated to:

- construction of 2 additional landfill cells, increasing the surface from 38 000 to 60 000 m²
- preparation of side-slopes of the new cells
- excavation for the surface waste collection canal / gutter
- coverage of surface with geo-membrane and geotextile
- leachate network construction for new cells
- installation of flare in the existing cell

In accordance with the above forecasts of the Masterplan, alternative methods for waste reduction and recycling should prevail as part of the local MSW management plans and regional plans.

Under a different project, URI has assessed the affordability to pay in Kukës WMZ based on a regional plan which is similar to the vision of the Masterplan.

Table 10: Household affordability to pay, full system tariff, 2026-2042

KUKËS REGION	Small urban households		Rural households	
	ALL	EUR	ALL	EUR
Average Annual Income 2026	626,507	5,012	455,905	3,647
Tariff household/year	5,131	41	5,131	41
ATP households 2026	0.8%		1.1%	
World Bank ATP standard	[0.7% - 1.7%]		[0.7% - 1.7%]	
Survey Region of Kukës ATP standard	1.2%		1.2%	

According to this assessment, it is visible that the Affordability to Pay (ATP) the fee to cover total cost of a full scale system based on the survey carried out in Kukës WMZ, especially for low income groups of HH (both in rural and urban areas) is at the range of 0.8% (affordable) to 1.2 % (quite even or slightly not affordable) for an annual fee at the range of 41 EUR /HH/Year.

Therefore, tariffs at the level as forecasted from the Masterplan assumptions are rather high and overcome the ability to pay for small and rural HH, and put at a high risk even the affordability of medium size families in urban areas.

Key Note 1: Tariff Affordability

An effective institutional and organizational concept for the regional scheme should take into consideration the Masterplan assigned responsibilities; said that a Feasibility Study and a detailed conceptual design is required based on field measurements of waste amount and composition involving the whole WMZ, to either confirm or adjust accordingly Masterplan assumptions and forecast.

Assessing the affordability of the tariffs as forecasted by the Masterplan would require a detailed financial and socio-economic analysis that are usually part of a comprehensive Feasibility Study. Based on an earlier

assessment of URI carried out in the framework of the “Financial and Economic Analysis in the Waste Management Zone of Kukës¹³”, for almost the same system as proposed from the Masterplan, it is calculated that the affordability level for a full system tariff is at the limits for the low income group of the households.

Given the similarities between most parts of the Region Shkodër – Lezhë with Kukës Region, tariffs at the level of 61 EUR/HH/year would rather high and very probably beyond the affordability level for most of the population living in the Shkodër – Lezhë Area.

6. Institutional options for the operationalization of the regional scheme

6.1. Current situation of institutional and organizational option of the regional scheme

Under current conditions, only the landfill of Bushat is operational, as one of the main regional infrastructure facilities of the regional scheme. From the institutional point of view, landfill of Bushat is owned by the Municipality of Vau Dejës.

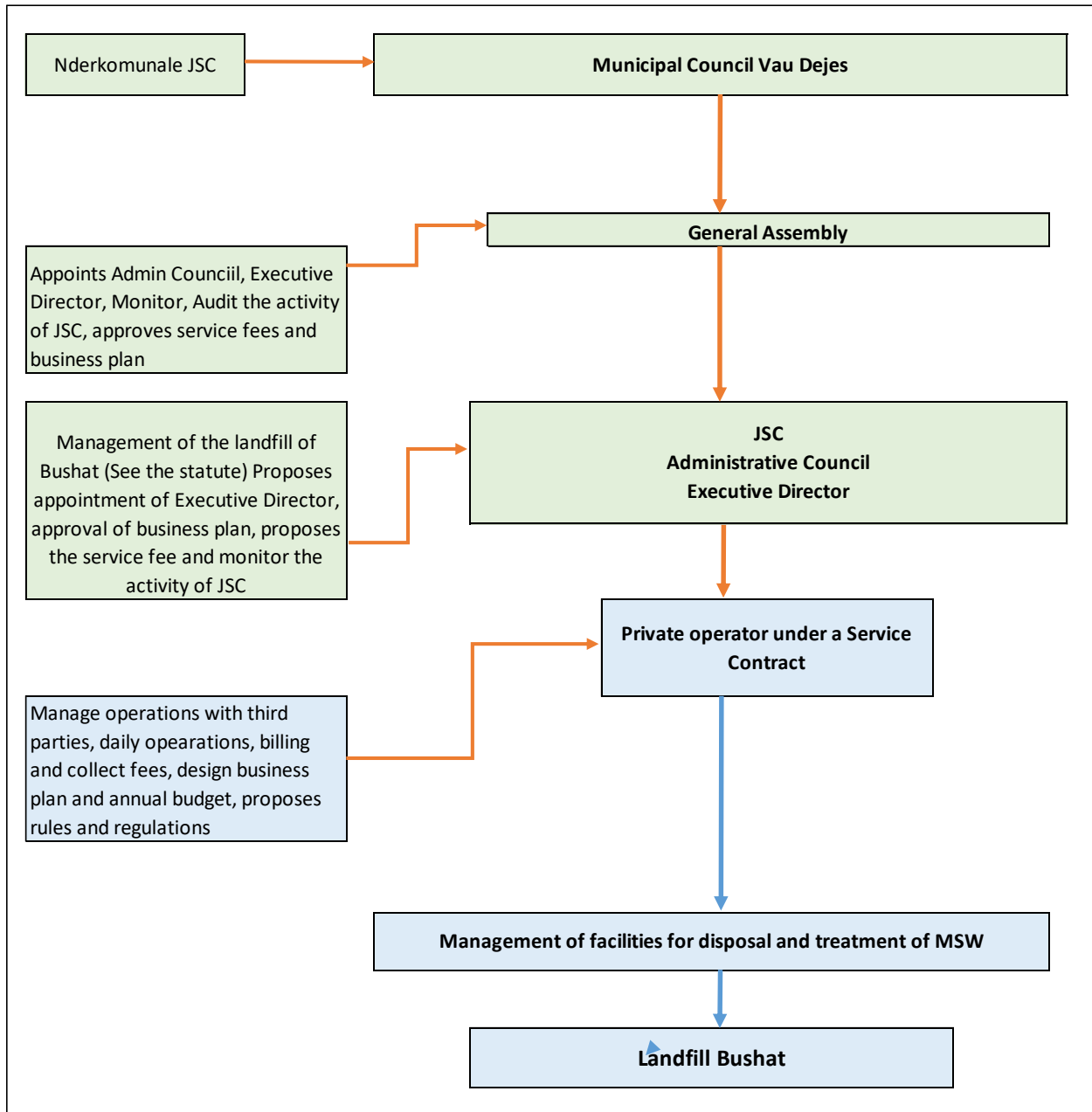
With regard organizational and management aspect, Vau Dejës has established a joint – stock company, namely “Ndërkomunale/Intercommunal Bushat sh.a” (the Manager who is the owner of the assets) with 100 % of shares owned by Vau Dejës Municipality. The Manager has full authority to enter into service contracts with municipalities, third parties either public or private, calculate and propose and apply the “gate fee” as approved from the general assembly, etc.

The Manager has contracted out operation of the landfill to a private operator namely “Becker Albania sh.a” under a service contract. Becker Albania sh.a was initially established as a joint – stock company of two partners, specifically one German and one Albanian partner. As it is reported, the German partner has transferred all his shares to the Albanian partner namely Becker Albania sh.a who actually owns 100% of shares.

¹³ TA for Integrated Solid Waste Management System for two Selected Municipalities of Albania - EuropeAid/138181/DH/SER/AL

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 9: Current schematic institutional structure for the management of the landfill of Bushat.



6.1.1. Existing contractual arrangements of current institutional and organizational options of the regional scheme

Reference is made with the Service Contract between “Ndërkomunale Bushat sh.a” (The Manager) and “Becker Albania sh.a” (The Operator), as signed on 20.01.2019 based on a decision of the former commune council of Bushat as of 17.06.2010. The Contract is renovated with a decision of the municipal council of Vau Dejës, to authorize the revision and signing of a new Service Contract between the Manager and the Operator. According to these acts, the landfill of Bushat owned by Ndërkomunale Bushat sh.a, is given under operation to Becker Albania sh.a for a period of 25 years.

The Preamble of the Contract signed between the Manger and the Operator emphasizes that “Ndërkomunale sh.a” has been created (from Bushat Commune now the municipality of Vau Dejës), to make implementable and to accommodate the needs of the communes and municipalities for waste disposal, which now altogether are integrated with the municipalities of Shkodra and Lezhë; as such it is understood that should any other municipality would require to use landfill of Busha, than the existing contract should be amended to allow for other municipalities in the region to dispose their waste in the landfill.

The Contract recognizes the Manager’s obligation to ensure that the Operator shall acknowledge all contracts and agreements signed form the Manager with other LG units as defined in the Preamble of the Contract; it also recognizes the Manager’s obligation to acknowledge and accept the investment plan and related costs as proposed and carried out by the Operator as own Operator’s costs.

The Contract recognizes also the Manager’s obligation to make the payment to the Operator, against issuance of invoices, for all MSW disposed in the landfill.

There are no specifications about the procedures the “gate fee” is calculated and set, nor does the Contract provides for any procedure or specific authority that has the right to estimate the costs of the service and set up the service fee, nevertheless the contract recognizes the right of parties to revise the unit price at annual bases.

On the other side, a contract is needed to be signed between municipalities of Shkodër and Lezhë (the Client) and Ndërkomunale sh.a (the Manger) for the disposal of MSW in the landfill of Bushat¹⁴. The Article 2.2 of the Contract defines the tariff for the disposal of MSW to the landfill form the Client, currently at the amount of 863 ALL/ton (excluding VAT of 20%) otherwise equal 1076 ALL/ton. The payment of the Client for the Manager shall be calculated as the production of unit price (gate fee) with the total amount of MSW in tones (Article 5.1). The Contract does not provides for any clause, which would recognize to the Manager the obligation of using or showing any instrument, such as might be a Business Plan or cost calculation that shall engage parties in a transparent discussion over setting the gate fee and the operation of the Landfill, nor it provides for any clause to engage parties in transparent discussion on monitoring the performance of the Operator of the landfill.

¹⁴ Contract for the disposal of urban waste of Shkodër Municipality to the Landfill of Bushat.

6.1.2. Common interest of municipalities and central government to adopt changes of current institutional and organizational and opting for options of regional scheme

Despite obligations of municipalities to cope with the legal framework with reference environment protection and integrated waste management, changes and improvements of the instruments for the management of MSW at regional scale should be geared by a common interest.

Benefits for change would be of various fields, as least but not necessarily limited with the following:

- Environmental aspect,
- Asset management,
- Operational and financial management
- Regulatory and standard management,
- Further Investment requirements.

Table 11: Summary of benefits of all stakeholders to adopt changes for the management of MSW in the Shkodër - Lezhë WMZ

	Other municipalities	Vau Dejës municipality / Ndërkomunale SH.a	Becker (landfill operator)	Ministry of Tourism and Environment	Ministry of Infrastructure and Energy	KFW
Assets	Waste to dispose in the landfill	Ownership of the land	25 years' service contract to operate the landfill	Regulator	Plan investments for the infrastructure	Capital investment in waste sector.
	Less depreciation costs	Control of the Company and the landfill	Waste to landfill	Service standard	Money to invest in Landfill	
Interests for change	Minimise costs of waste disposal	Make profit as provider of the site	Make profit as operator	Insure legal sustainable environmental sound system.	Landfill worth the money invested	Money is well invested
	Transparency on the landfill annual budget and tariff calculation	Long term business model Municipalities and clients pay the tariff.	Receive payments from municipalities and private clients on contracts bases	Control on environmental protection <ul style="list-style-type: none"> • Water • Gas • Closure, • rehabilitation 	Technically sustainable landfill (respecting all the	

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Other municipalities	Vau Dejës municipality / Ndërkomunale SH.a	Becker (landfill operator)	Ministry of Tourism and Environment	Ministry of Infrastructure and Energy	KFW
				regulation, norms, etc.)	
Long term improvement of environment conditions (closure of existing bump sites)	Reduce nuisance and protect the environment <ul style="list-style-type: none"> Water Gas, smells Landscape protection 	Keep the contract on the long term.	Insure a good closing (for long term environmental protection)	Close correctly the landfill, to be free of long term responsib.	
Keep long term cheaper solution then other forms as incinerators	Accumulate enough capital to finance the closing in 10-20 years	Integrate closure and long-time survey of the landfill in the contract	Control that budget and tariffs allow are sufficient to finance present and future environmental operation, closing and operation after closing (50 y)	Order cost calculation of the required budget for closing and operation after closing	
Data to justify the money spent (transparency)	Data to control and manage the budget for environmental improved operation		Make pressure to owner and operator for respecting environmental legislation	Define project for improved operation and long term extension	Finance investments for improved operation and extension

6.2. Structure for recommended institutional context and allocation of responsibilities of stakeholders under a regional scheme framework

The institutional framework shall be based on the law 139/2015 “On local self-government”, in particular to Article 14 and the following of the Chapter IV “Cooperation between local self-government units”.

The recommended institutional structure for the preparation of the regional scheme, to ensure an environmental sound, technical and economic viable integrated management of MSW in the jurisdiction of a WMZ, should be composed of three levels:

1. Level of decision making - municipal councils, represented by mayors of designated municipalities;
2. Level of operation – establishment of the Entity of Joint Competence;
3. Level of coordination, monitoring and evaluation - otherwise the establishment of Steering Committee-Monitoring Board;

The following paragraphs shall provide a detailed description of responsibilities for each level in structure of institutional framework. All the following should be part of any document(s), agreement(s) or contract(s) of either bilateral or inter-municipal level that shall be developed for the case.

6.3. Responsibilities of main stakeholders

6.3.1. Responsibilities of Decision-Making Level

The Municipal Council is representative body of the municipality. As such, for the purpose of the delivery of the service of collection, transportation and treatment of MSW, the tasks and responsibilities of the Municipal Council as defined by the article 54 of the law 139/2015 “On local self-government”, imply:

- a. Approves the establishment acts of enterprises, joint stock companies, and other types of legal persons that are created by them or joint-establishments;
- b. Approves the annual budget and relevant amendments;
- c. Approves transactions of municipal properties;
- d. Decides on local taxes and service fees in accordance with appropriate legislation;
- e. Decides on the establishment of joint institutions with other local self-government units including entities of joint competence and other third parties;
- f. Approves norms, standards and criteria for the regulation of delivery of public services with the purpose of achieving the efficiency and effectiveness and protect the interest of public at large.

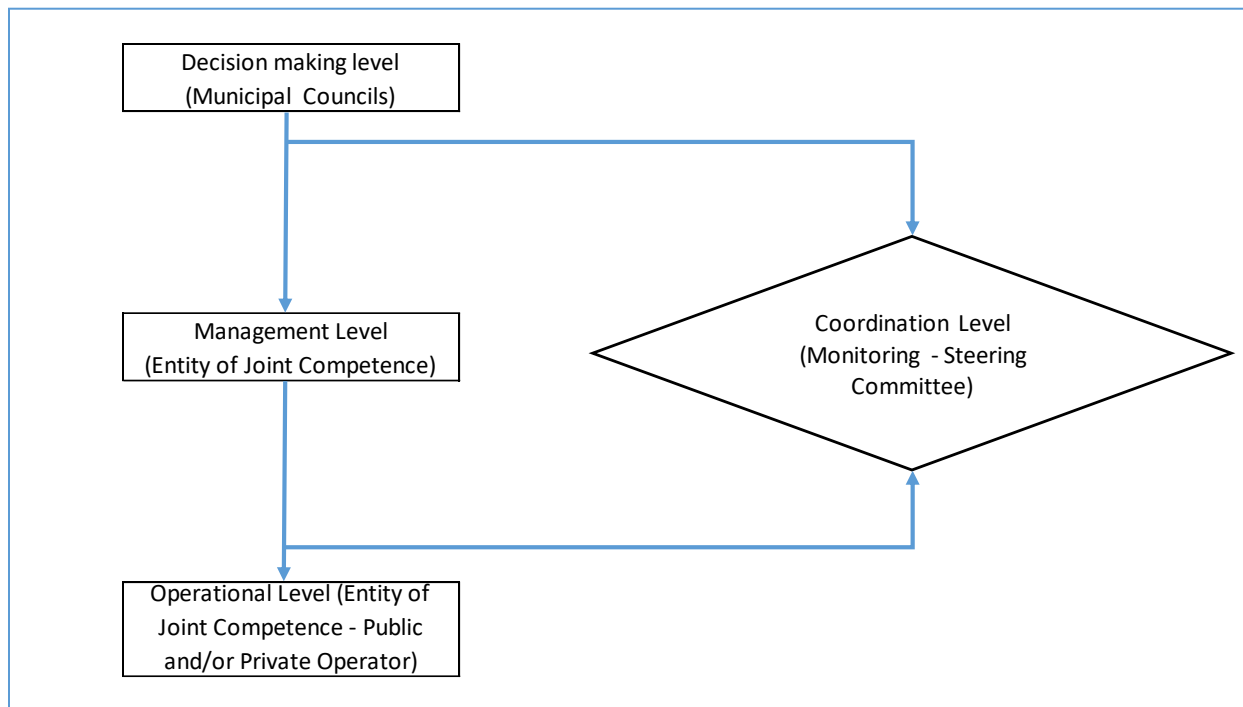
Irrelevant to the format that shall be adopted for operational activities to ensure integrated management of MSW in the jurisdiction of a WMZ, these responsibilities shall remain unaltered and exclusive to the municipal councils.

Given the provisions of the law 139/2015 on the tasks and responsibilities of the municipal council, to complement the recommended structure, the decision of the council is required for the establishment of institutions and/or entities of joint competence; that includes:

- Inter-municipal agreement at the council level,
- Establishment of the Steering – Monitoring Committee,
- Establishment of the Entity of Joint Competence,
- Define operational structure

Decisions of the council are taken based on a direct voting mechanism. Most of decisions, including items a, b, d, e and f as above indicated are taken with the minimum of 50+1% of all members of the council, whereas decisions relevant to item c above are taken with a qualified majority of at least 3/5 of all members of the council.

Figure 10: Recommended Institutional Structure for the Management of INWTF



The mayors of all municipalities should attend any initiative and engage in discussion with the mayor of Vau Dejës and other mayors in the WMZ; that action could take to the revision of existing documents/agreements that arrange the relationship between municipalities and them consequently with the current Manager of the landfill; BtF could take the initiative and facilitate the process.

6.3.2. Responsibilities of Steering – Monitoring Board Level

For this exercise and the operationalization of a regional scheme, the recommended structure for the integrated management of MSW in the jurisdiction of a WMZ shall be complemented with an intermediate level of organization – otherwise the establishment of a body, nominated as the Steering – Monitoring Committee (S/MC) for integrated management of MSW in the jurisdiction of the WMZ.

The general purpose of establishing the Steering Committee – Monitoring Board (SC-MB) is to facilitate, coordinate decision making at the level of municipal level, monitor and evaluate the performance of the EJC and condition investments with the level on which municipalities meet their obligations toward their regional involvement.

CC-MB shall be composed of mayors of member municipalities and representatives of line ministries to include at least the Ministry of Infrastructure and Energy responsible for allocation of investments and operational and technical standards and the Ministry of Tourism and Environment responsible for setting policies, objectives and targets to achieve environmental sound management of ISWM and relevant facilities; meetings of the CC-MB shall be opened to the participation of representatives of civil society, prominent individuals and businesses.

CC-MB will ensure that the voice of the community is heard and taken into consideration when decisions are taken on aspects to issuance and decision making relevant to financial burdens payable from citizens in the form of tariffs for the service delivery.

The role and responsibilities of SC-MB shall imply, but not limited with the following:

- Shall operate as an inter-municipal cooperation assessment instrument;
- Review and agree on the draft framework of the Inter-Municipal Agreement (IMA).
- Ensure broad representation of community;
- Ensure for implementation of Plan and location of facilities based on the Feasibility Study,
- Negotiate on capital investment costs,
- Negotiate on organizational and operational format and relevant costs.
- Set up instruments for discussion to include Business Plan, performance standards and relevant cost calculations and setting up the gate fee and ensure resolution of conflicts.
- Other negotiation.

The SC-MB may decide that its presentation is made by one, two or more representatives.

The role of CC-MB should be recognized in any agreement or contract of both bilateral and regional nature.

For the case of the Waste Area of Shkodër-Lezhë, the Steering Committee shall be composed of at minimum 7 members, including 7 mayors or each municipality in agreement and at least two member one from MIE and MTE represented at the level of deputy ministers. Mayors in the C(M)S shall be mandated by their representative councils, whereas representatives of ministries shall be mandated by a specific order of the relevant ministry.

The /MS might hold at least two meetings a year and as many times as it might be required with the participation of at least 50 % of mayors and the compulsory participation of ministry representatives.

6.3.3. Responsibilities of Management Level - Entity of Joint Competence –

Municipalities into the agreement shall receive the current institutional situation and further decide that they will collaborate on a process base towards further improvements and changes of the institutional framework until an “entity of joint competence” (EJC) shall be created as the instrument for the management of Integrated Network of Facilities for Disposal/Treatment of MSW in the jurisdiction of the WMZ.

The form of the EJC shall be decided based on the legal, investment, organizational and financial analysis subject of a Feasibility Study.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

The EJC's mission is to deliver service quality and resource efficiency in integrated management of MSW in the WMZ to safeguarding occupational, environment, and health and safety standards.

The EJC scope of work includes management of Transfer Stations, long distance transportation of waste from TS to the Waste Treatment Centre, and management of MRF and BMT facilities and other facilities when needed, transportation of remaining waste to the landfill for final disposal.

The scope of EJC is to design a Business Plan, a performance standard and relevant cost calculations and open it up for discussion with other municipalities despite the extent to which the institutional regional scheme is developed.\$

The following table provides for a summary of allocation of responsibilities among various level of stakeholder of recommended framework structure.

Table 12: Allocation of responsibilities between stakeholder's levels

Aspects of responsibilities	Municipalities Decision Level	Steering committee - Monitoring Level	Management Operation Level
Regulatory	Approves the establishment acts of enterprises, joint stock companies, and other types of legal persons that are created by them or joint-establishments	Operate as an inter-municipal cooperation assessment instrument	Ensure occupational, environment, and health and safety operational standards
	Decides on the establishment of joint institutions with other local self-government units including entities of joint competence and other third parties	Review and agree on the draft framework of the Inter-Municipal Agreement	Allow for application of instruments to ensure open and transparent discussion with other municipalities
	Approves norms, standards and criteria for the regulation of delivery of public services with the purpose of achieving the efficiency and effectiveness and protect the interest of public at large	Ensure broad representation of community	
		Set up instruments for transparent and inclusive discussion to include Business Plan, performance standards and relevant cost calculations and setting	

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Aspects responsibilities	of Municipalities Decision Level	– Steering committee - Monitoring Level	– Management Operation Level
		up the gate fee and ensure resolution of conflicts	
Financial	Approves the annual budget and relevant amendments	Negotiate on capital investment costs	Achieve cost efficiency of environmental sound operation of the regional infrastructure for the integrated management of MSW
	Approves transactions of municipal properties		Calculate costs and propose fees for the operation of regional infrastructure
	Decides on local taxes and service fees		design a Business Plan, a performance standard and relevant cost calculations
Management and Operational	Define operational structure for service delivery	Negotiate on organizational and operational format and relevant costs	Management of regional infrastructure and long distance transportation of waste to the Waste Treatment Facility
	Contract service delivery to either public or private third parties -		Deliver service quality and resource efficiency in integrated management of MSW on agreement – contractual bases

6.4. Risk Assessment of the Institutional Option and Approach to Address

Regardless whether the management entity will be a “state – municipal owned “joint stock company”, establishment of the organization of municipal joint interest bears several risks that need to be considered and analyzed. That following risk items have been identified and analyzed, and recommendations how to address these risks are provided.

The following table contains the three categories and level of risk items that are classified into:

1. High risk;
2. Moderated risk;

3. Low risk;

Table 13: Risk categories and level of impact

Risk Category	Risk level
Involvement of stakeholders of interested	High
Politics and governance influence	High
Management capacities and human resources	High
Financial affordability	Moderate
Allocation of investments	Low
Environmental and social risk	Moderate

Involvement of Stakeholders of Interest

Involvement of the stakeholders of interest in the integrated management of MSW, the municipalities, is estimated as of “high” impact to the successful establishment of an “entity of joint interest”.

This risk category shall be diminished should the mayors shall be involved in the process since the initial steps and the capacities of municipalities are strengthened. The risk shall also diminish should central government authorities, specifically MIE and MTE play a constructive role and apply a fair and transparent approach for the allocation of investments regardless the political affiliation of mayors or municipal councils. Moreover, the constructive role of central government authorities is crucial in strengthening the capacities, encourage municipalities to entering into inter-municipal agreements for delivery of public services in particular with regard integrated management of MSW; lastly, it open up and rises the interest of private sector participation.

Politics and Governance

Reaching of an inter-municipal agreement could be put into high risk due to the very partisan situation in political terms in Albania, given that mayors of municipalities in the WMZ of Shkodër-Lezhë share different opinions on the matter of waste management, and therefore their positioning towards the solutions as proposed and agreed in the this report, might be politically oriented in different circumstances. To avoid this situation and lower the level of risk, the following measures are recommended:

- Encouragement of the dialogue among mayors of different municipalities in the WMZ of Shkodër-Lezhë;
- Organize and conduct frequent meetings with the participation of mayors in the context of Regional Plan for Waste Management preparation;
- Avoid discussion of proposals and solutions when approaching the time of local or even national elections, given that the political contest becomes more partisan than usual.

In this context, it is important to highlight that this type of agreements be prepared and put into discussion ahead or amongst of election periods to avoid political contest.

Capacities and Human Resources of the Management Entity

Union of the municipalities into an inter-municipality agreement for the establishment of the entity of joint interest which also acceptable for the central government stakeholders, is going to be one of the most difficult but also meaningful challenges to meet for the implementation of the project.

While the selection of a public entity as the instrument for the integrated management of MSW would require well prepared and able human capacities along with a considerable initial budget, the choice of a private operator could imply higher costs rendering the service to the public at large.

On the other side, implementation of an integrated scheme for the management of MSW would require important financial resources that at the initial moment might not be possible for municipalities and even from the state budget. Any type of juridical entity that shall be established shall require for human, technical and financial support for a relatively long time.

All as above are considered as potential risk, which if not addressed properly might hamper the implementation of the project. These risks may be attenuated should the juridical, entity which is established for the management of the system, would operate in an autonomous manner and free from political interventions, although subordinated to a performance-based monitoring and evaluation system.

Conditions for the Financial Affordability

Municipalities appear into different financial situations; as such, the affordability of costs for the management of the new system could become a risk of at least a moderate value for the implementation of the project to all municipalities in the area.

While costs of collection and transportation of MSW that shall occur in the territory of the municipality shall be covered by the municipal budget based on the “polluter’s pay” principle, the coverage of costs related to the treatment of MSW could be subject of a horizontal inter-municipal subsidy scheme when these costs are affordable (within the estimated level of affordability). When costs are exceeding the threshold of affordability than the difference beyond what is affordable as of the “polluter’s pay” principle, should be subsidized by other financial sources to include the State Budget as well.

Timely Insurance of Investment Funds and their Allocation

The application of the integrated management scheme of MSW in Shkodër-Lezhë might be at risk also due to the opportunity to find financial resources to support for the initial capital investment that are required for setting up the integrated network of treatment facilities. The project might be also at risk due to a potential unbalanced allocation of investments among member municipalities, otherwise following an order of priorities as it is later specified in this document.

To mitigate this risk, the Implementation Plan of the Project should ensure for a balanced allocation of investments passed on an agreed and planned priority list of actions and avoid deviations of the plan as it might come based on momentary needs.

Environment and Social Risks

Current patterns of waste management have shown that the service is limited, quality is poor, and the treatment remains among most important problems, all of them have turned into an important environmental and social problem to address.

Implementation of the Plan shall ensure that the extension of service coverage and the control of existing dumpsites, makes one of priority actions. Application of this measure shall mitigate the impact of waste in

the environment and therefore to the causing of any related social problem, and that will be finally addressed when the integrated network of treatment facilities as proposed in the Plan shall be put in place and efficiently operated.

Key Note 2: Recommended Regional Structure of the Institutional Framework

With regard waste management, a Regional Scheme for the Integrated Management of MSW, would imply an organization that shall be assigned with the administration of the infrastructure network or the service delivery that involves at least two or more municipalities or facilities that are established for to serve to specified municipalities.

Given the definitions of the Master Plan, the network for integrated management of MSW in the Waste Area of Shkodër-Lezhë is composed of four TSs one Mechanical and Biological Treatment Facility (BMT) and the Landfill in Bushat. The initial positioning of some the aforementioned TSs are located in the current places of existing dumpsites in the said municipalities; however further and somehow rather long time term investigation is required to conclude with final positioning of some of the facilities.

The service deliver at regional scheme may imply operation of Transfer Stations, transport of MSW from TSs to the main facility of landfill and other facilities such as might be BMT, and any other treatment facilities which processes aim reuse and reduction of waste, and the transportation of remaining MSW for final disposal to the landfill of Bushat.

Institutional framework for the integrated management of MSW is conditional to the legal framework as of the law on local self-government, and other laws as above specified.

The institutional framework becomes binding to either bilateral municipal agreements or an inter-municipal agreement (the agreement) between municipalities that are binding to become members of an “entity of joint interest” for the integrated management of MSW in the WMZ of Shkodër-Lezhë.

The agreement is also binding to the path and the process for the approval of the Feasibility study and the Environment and Social Impact Assessment of the Regional Scheme for the Integrated Management of MSW in the WMZ of Shkodër-Lezhë that includes:

1. Approval of municipalities;
2. Submission for the procedural processing to the Agency for Territorial Development;
3. Submission for approval from the National Territorial Council

The agreement shall take a two-step approval process:

- An initial approval of all mayors of member municipalities:
- The approval of the agreement by municipal councils of respective municipalities based on the grounds as set forth initially from the mayor’s engagement to sign it.
- In order to address those risks of “High” impact, despite the scale of development, it is imperative that the project continuous to intensively communicate with all the mayors in the area, so that their support is ensured and strengthened.

6.5. Inter-municipal Agreement, the Instruments for Achieving Structure of the Recommended Institutional Framework

The institutional framework shall be based on the law 139/2015 “On local self-government”. Article 14 and the following of the Chapter IV “Cooperation between local self-government units”

To perform delivery of the service as herein specified, the municipalities within one Qark and/or even in more than one Qark, can enter into an inter-municipal agreement, which shall constitute the fundamental instrument for achieving the recommended institutional structure.

At least two or more municipalities within one Qark or/and more than one Qark, including the participation of central government institutions may connect into a joint agreement with the purpose of:

- a. Delivery of any public service, and also
- b. Establishment of any legal person to serve to the subject of the agreement..

Should the case be the establishment of a legal person, both for the case of this Project and per the law on local self-government, is otherwise nominated as “entity of joint competences/interest”.

The benefits of municipalities from an Inter-municipal agreement for both bilateral and regional purpose, having as subject the delivery of a public service, and for the said case, the management of MSW, would include at least the following:

- a. Economies of Scale in capital and annual operation and maintenance costs relevant to the delivery of the service subject of the agreement;
- b. Cost sharing resulting in lower costs for cooperating communities;
- c. Consolidated siting of facilities that are often a challenge and difficult to site;
- d. Cooperation with and elimination of redundancy in:
 - i. Operation and maintenance
 - ii. System monitoring and reporting
 - iii. Permit Compliance
 - iv. Administration
 - v. Budgeting and billing
- e. Lower unit treatment costs
- f. Larger service area in which to find the best sites for regional facilities, often resulting in lower costs
- g. Ensure uniform quality and quantity of the service
- h. Centralized/consolidated operations of mutual facilities.

Regardless the scale of the agreement, whether it is achieved between two municipalities or from all municipalities, the instruments, in addition of usual provisions, should contain some clauses of indispensable nature that could be:

- a. The agreement is a single – clear purpose cooperation instrument;
- b. Transparent reflection of financial, technical and operational relationships relevant to the subject of the agreement;

- c. Transparent decision making process with regard issues of joint interest such as might be, costs, service standards, service fees;
- d. Enforcement of a monitoring and evaluation mechanism.

7. Scenarios for management of MSW at regional scale for Shkodër – Lezhë WMZ

Various scenarios and options could be considered for the management of infrastructure that are accounted as facilities that compose the regional scheme for the management of temporary storage, long distance transportation and final disposal and treatment of MSW.

Various options might also be applicable at the level of individual municipalities considering all aspects of the service/function for the management of MSW, i.e., collection, removal, long distance transportation, disposal and treatment of MSW.

As we have earlier emphasized, operationalization of a regional scheme should be considered as a process of moving from one scenario to the other one vis a vis with the development of the network of regional infrastructure; this is in fact the approach we propose by developing the scenarios on a consecutive bases as in the following.

For the purpose of this mandate, we have taken into consideration 3 Scenarios:

1. Scenario 0 - the current one, which is developed in two different Options; it implies only the municipalities of Malësia Madhe and Kurbin :
 - a. Transfer of MSW to the current disposal sites (DS)
 - b. Transfer of MSW to landfill of Bushat.

Detailed cost calculations are carried out for each option of this scenario.

2. Scenario 1 – implies improvements of the current one including initial elements of regional scheme organization. Under this Scenario transfer and disposal of waste to landfill of Bushat is carried through Transfer Stations (one for each municipality) managed by each respective municipality, with long distance transportation of waste subcontracted to Ndërkomunale Sh.a. A detailed cost calculation is carried out for this scenario.
3. Scenario 2 – Operationalization of the whole regional scheme based on the Masterplan projections and guidance. No costs are calculated for this scenario, given that our mandate does requires for the development of this scenario.

7.1. Scenario 0: Improvement of Current situation

Scenario 0 that is based on the current situation might develop and further advance, which improvement would imply implementation of various elements as in the following. This scenario does not implies the construction and operation of Transfer Stations in any of the municipalities of the designated area; rather, municipalities will transport their MSW to the landfill of Bushat, but at the same time to consider some adoptions and improvements that could render it possible.

Given that no other infrastructure is foreseen to develop, under this scenario we consider only three components.

A. Institutional arrangement:

- a. Shkodër and Lezhë review and re-sign the agreement with Vau Djes and the contract with the Manager;
- b. Malësia Madhe and Kurbin sign an agreement with the municipality of Vau Dejës and a contract with the Manager,
- c. The agreement shall be integrated as part of the Preamble of the Contract between the Manager and the private operator of the landfill, (Becker Albania sh.a – the Company)
- d. A Business Plan and cost calculations for the services rendered from the Manager shall be developed and revised on annual basis and become conditional of as of the agreement between parties;
- e. Both documents shall contain necessary clauses as above delineated (paragraph 5.5), including sanctions for the Manager / Private Operator should they fail to cope with adopting and implementing transparent instruments as part of mutual relationship with the client municipalities.
- f. At the current situation, all as above is expected to develop on awareness bases and the free will of municipalities with an intermediary and monitoring role of line ministries, i.e., Ministry of Infrastructure and Energy and Ministry of Tourism and Environment; BtF could take a facilitating role to bring mayors and line ministries together into a discussion position.

Currently there is no legislation that obligates municipalities to dispose their waste to a regional facility; Waste Management Zones are not yet an official reality. In order that this happens, the Masterplan and the NSWMM should become official documents, which will be followed by the design and approval of the Feasibility Study, otherwise the Sector Regional Waste Management Plan, that could serve as a legal instrument to oblige municipalities to start using the regional facility.

Therefore the involvement of line ministries shall also be an awareness based action, unless the mechanism of investment required for the landfill of Bushat is used as an instrument that would oblige the municipality of Vau Dejës towards revision and signing of new agreements with the other municipalities. This aspect could lead to the involvement of line ministries and the establishment of Steering – Monitoring Board for the Shkodër – Lezhë WMZ.

B. Long distance transportation of MSW:

- a. Municipalities, as it is the current case of Shkodër, Lezhë and Vau Dejës, take their MSW to the landfill of Bushat on their own operation and expenses either through engaging public or private operators;
- b. The same shall be only option for the municipalities of Malësia Madhe and Kurbin at the soonest time possible and upon their own costs and operation as appropriate, either through private or public operators;
- c. Costs of long distance transportation to be discussed with line ministries; the later take over financing for closing of existing disposal sites as a contribution to support the obligation of municipalities to take their waste to the landfill.

- d. In a later time, the other municipalities of Shkodër – Lezhë WMZ namely Pukë and Fushë Arrëz and later Mirditë shall join/be required from central government authorities to dispose their MSW to the landfill of Bushat and upon their own costs and operation as appropriate, either through private or public operators, benefiting the contribution of the government for financing the closure of current disposal sites;

C. Management of facilities for the disposal and treatment of MSW:

At the current situation there is only one regional facility, which is the Landfill of Bushat, where the disposal and treatment of MSW is managed by “Ndërkomunale Sha” as a utility established and owned 100% by the municipality of Vau Dejës, which has contracted out the operation to a private operator under a Service Contract for 25 years.

- a. The management of the facility shall remain the same given the institutional arrangement as above delineated,
- b. Relationship between the Mangers and the municipalities shall be set based on contractual agreements established on the price and conditions as set forth from the General Assembly, otherwise the Municipal Council of Vau Dejës.
- c. Management conditions and the service price shall be subject of transparent discussions between municipalities as stipulated in the agreement which were previously signed between the parties.

For the purpose of this Scenario, cost calculations are carried out in two Options for both municipalities:

- Option 1 - Collection, transfer and disposal of MSW to existing disposal sites, and
- Option 2 - Collection, transfer and disposal of MSW to the landfill of Bushat.

Also, calculations are based on an improved collection system that allows municipalities to achieve desired objective as of 2025, which is the end of the planned timespan for the LWMP of respective municipalities.

7.1.1. Cost of MSW collection, transportation, disposal and treatment for Malësia e Madhe and Kurbin

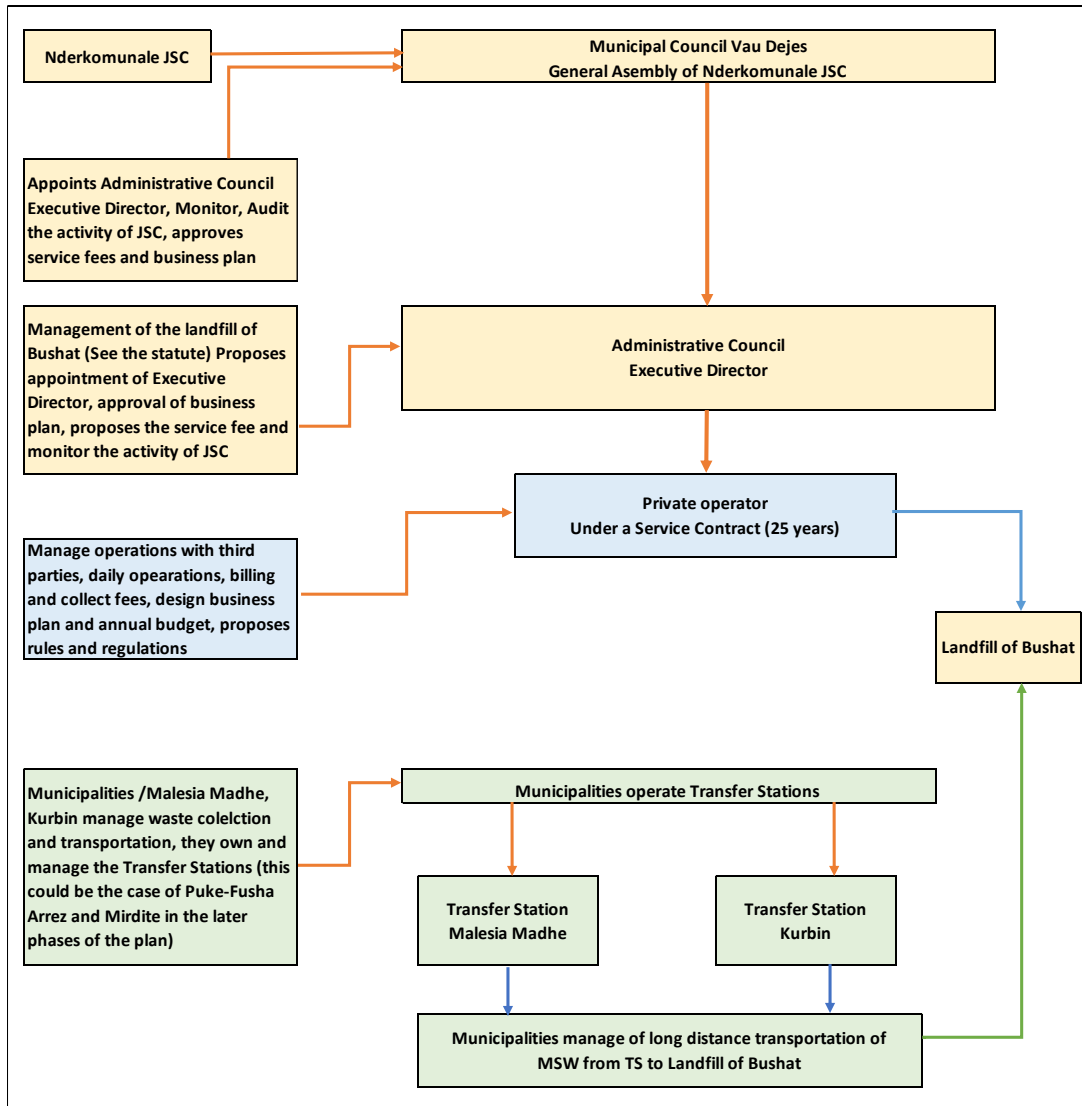
In response to the requirements of TOR for the mandate issued by BtF to URI, the measurement of the amount of waste generated in Malësia Madhe and Kurbin was carried out (see the table below) and annual costs for different options relevant to distance hauling of MSW to the landfill of Bushat are calculated for both Kurbin and Malësia e Madhe municipalities as in the following paragraphs.

For both cases a waste generation projection is carried out for a 5 years timespan, based on current calculated waste generation and taking into consideration an increase of waste generation at the rate of 0.3% at annual bases and the increase of the population at the rate of – 0.54%¹⁵ (in reference with the coefficients as used for the case of the draft Strategy), including the escalated gradual service coverage increase and waste reduction by composting and selection for recycling.

¹⁵ Based on INSTAT study on medium population increase scenario for 2018 – 2033.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 11: Organizational chart of JSC according to Option 2 of Scenario 0



Therefore calculation of costs for various scenarios will be carried out with reference the projected waste amount collected based on desired objectives of respective municipalities until 2025, in relevance with the timespan of Local Waste Management Plans that are in the course of preparation from URI in collaboration with dedicated municipal staff under another mandate of URI with BtF for both Malësia e Madhe and Kurbin.

7.1.2. Cost of MSW collection, transportation, disposal and treatment for Malësia e Madhe

According to the calculated population based on the formula used by the Ministry of Finance and Economy (MFE), the effective resident population in this municipality is estimated at 37,823 inhabitants. Referring to the service coverage of about 83% as reported from Municipality, population served is estimated at about 31,411 habitants basically concentrated in urban areas.

According to field measurements in Malësia e Madhe of waste collected in a consecutive week (period 09/11–15/11/2020), the accumulated and weighted quantity of MSW results on average at about 10.7 tonnes / day or about 3,890 tonnes / year, producing a generation of about 0.296 kg / capita / day for a service coverage of on average 83% of the resident population in Malësia e Madhe.

In addition of weighted MSW an amount of 2.87 tonnes/day or 1,050 tonnes/year of mixed solid waste (inert waste from construction and demolition mixed with other municipal waste) is also collected.

From this amount it is estimated that about 30% or 862 kg / day or about 314 tonnes / year consist of mixed domestic waste and 2,011 kg / day or 732 ton / year mixed inert waste which will contribute to the total collected amount with about 0.06 kg / capita / day.

To enable a calculation of the MSW generated on the territory of the municipality as close to reality as possible, the effect of tourism activity was also taken into account. As stated from municipality reports the place is visited by about 11,300 tourists mainly residents returning home from foreign countries mainly during the summer and end of the holiday season and the category of tourists visiting mainly the mountainous areas of the municipality, (Tamare, Bajze , Teth, Vermosh etc). It is estimated that the first category accounts for about 75% while the second category accounts for about 25%.

Various studies have shown that the effect of tourists on MSW generation in rural areas is estimated at around 0.4 kg / cap/ day. Based on these data the effect of the tourists / visitors contributes with about 52 tonnes / year resulting in about 0.004 kg / cap/day of MSW that are added to the quantity from other sources of generation, distributed over the year and all the served territory of the municipality.

Based on population served and waste measurements as above delineated, the following table indicates for the amount of MSW collected and generated in the territory of the municipality.

Table 14: Total MSW collected, 2019

Waste categories	Quantity (2019)
Total household waste collected	3,848
Total household waste as separate fraction of mix waste	314
Total collected of inert waste as a separate fraction of mix waste	734
Amount calculated to include tourism impact	52
Total MSW collected	4,948
Total daily MSW collected (tonnes/day)	14

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

To calculate the total MSW generated in the territory of the municipality, a generation factor of 0.29 kg/cap/day of MSW is calculated for unserved population mostly situated in remote rural areas, to account for a total of 793 tonnes/year of MSW generated and uncollected, to sum up as in the following table.

Table 15: Total MSW generated and collected, 2019

Municipality	Malësi e Madhe (2019)
Total population	37,823
Served population	31,411
% of served population	83%
Generation per capita for waste collected(kg/cap/day)	0.42
MSW Collected (tonnes/year)	4,948
Estimated generation per capita of not served areas (tonnes/year)	0.29
MSW produced not collected in remote area (ton/year)	793
MSW Generated	5,741

At the current daily bases the municipality collects about 14 tonnes/day. It is necessary to mention that due to collection frequency and the large territory to cover collection is carried out through 11 itineraries using 6 trucks.

A revised and adjusted collection system is designed by URI as part of the Local Waste Management Plan to become effective in 2021 - 2025.

Projections for the purpose of the LWMP indicate that by 2025, for an average coverage of about 93%, including a reduction by 29% of biodegradable waste and by about 9% of recyclable waste, the municipality will collect, transport and dispose about 4,763 tonnes/year compared to the calculated amount of 5,477 tonnes/year generated for the same year.

The table below provides for a summary of figures as the year of 2025.

Table 16: Total MSW generated and collected, 2025, Malësi e Madhe

Municipality	Malësi e Madhe (2025)
Total population	36,614
Served population	33,939
% of served population	93%
Generation per capita for waste collected(kg/cap/day)	0.42
MSW Collected (tonnes/day)	14.4
MSW Collected (tonnes/year)	5,257
Estimated generation per capita of not served areas (tonnes/year)	0.29

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

MSW produced not collected in remote area (ton/year)	5,546
MSW Generated	288
MSW disposed in the landfill (tonnes/year)	4,750
MSW reduced (tonnes/year)	507

The new system is designed in two Options:

- Option 1 - MSW are disposed to the current disposal site;
- Option 2 - MSW are disposed to the landfill of Bushat.

According to this new system, the number of itineraries is reduced from 11 to 6, and the distance of each truck to the landfill and back to the parking lot is calculated separately.

Table 17: Transportation distance of each itinerary to landfill and back to the Parking lot

Nr	Administrative Units	Km to DS back to parking	Km to landfill back to parking
1	Koplik + ¹⁶	63	125
2	Koplik	22	91
3	Kastrat	87	151
4	Qender	79	132
5	Kelmend	165	231
6	Gruemirë	68	114
7	Shkrel	95	156
	Total	557	909

Based on the new system and relevant to the final destination of waste disposal, related costs are calculated as compared to the current service costs as well. The summary of cost data indicates that the new system with 10 % more coverage, including about 140,000 EUR capital investments, will reduce costs of the service in 2025 by 12% without changing the final destination of waste.

The other alternative for the same targets and capital investments, but with a clear and major environmental benefit due to the transfer of wastes to the landfill of Bushat, will yield a cost increase by only 9%, including a major improvement in the service quality.

Table 18: Summary collection, transportation, disposal and treatment of MSW relevant to the disposal site and as compared to the current costs. Malësia e Madhe

Comparative costs for scenario 0	Current service costs (EUR/2019)	Option 1 Transportation to deposit site	Option 2 Transportation to landfill	% change
GRANDTOTAL INVESTMENTS		EUR 140.833	EUR 140.833	0%

¹⁶ This itinerary will collect once per week waste from AU of Koplik and some villages in AUs of Kastrat and Shkrel

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Operation costs		EUR 170.857	EUR 229.913	35%
Amortization costs		EUR 8.168	EUR 8.168	33%
Administration costs		EUR 16.112	EUR 21.427	33%
Net income		EUR 7.161	EUR 9.523	33%
GRANDTOTAL OPERATIVE COSTS	246,082	EUR 202.298	EUR 269.032	33%

A detailed costs calculation of cost based financial classification relevant to the overall cost for the waste management service delivery is shown as in the following table.

Table 19: Comparative analysis of capital and operational costs for both alternatives, Malësia Madhe as of 2025

Summary of costs for scenario 0	Option 1 Transportation to DS (EUR)	Option 2 Transportation to landfill (EUR)	% change
Investments			
Waste collection	EUR 140.833	EUR 140.833	
Waste transportation to landfill	EUR 0	EUR 0	
GRANDTOTAL INVESTMENTS	EUR 140.833	EUR 140.833	0%
Operation costs			
Waste collection	EUR 167.526	EUR 167.959	
Waste transportation	EUR 3.331	EUR 21.537	
Waste deposit and treatment	EUR 0	EUR 40.417	
Subtotal operating costs	EUR 170.857	EUR 229.913	35%
Amortization costs			
Waste collection	EUR 8.168	EUR 8.168	
Waste transportation	EUR 0	EUR 0	
Subtotal amortization costs	EUR 8.168	EUR 8.168	33%
Administration costs and net income			
Administration costs	EUR 16.112	EUR 21.427	33%
Net income	EUR 7.161	EUR 9.523	33%
GRANDTOTAL OPERATIVE COSTS	EUR 202.298	EUR 269.032	33%

The difference between two alternative (disposal to existing DS vs disposal to landfill of Bushat) grow is estimated by an average difference of 33% which derives basically from the difference relevant to the transportation cost of about 18,206 EUR and disposal and treatment cost at about 40,417 EUR, which makes about 35 % or about 58,623 EUR higher as compared to the first alternative (calculations are made for a gate fee to the landfill equal to about 9,0 EUR/ton including VAT).

These calculations suggest that installation of the new system including required capital investment and the disposal of waste to the landfill of Bushat, will cost to the municipality of Malësia e Madhe the difference of only 23,000 EUR in exchange of a better coverage, better service quality and an substantial improvement from the environmental aspect.

7.1.3. Cost of MSW collection, transportation, disposal and treatment to Bushat landfill as compared to current disposal site, Kurbin

According to the calculated population based on the formula used by the Ministry of Finance and Economy (MFE), the effective resident population in this municipality is estimated at 54,666 inhabitants. Referring to the service coverage of about 80% as reported from Municipality, population served is estimated at about 43,760 habitants most of which concentrated in urban areas.

According to field measurements carried out in Kurbin in a consecutive week (period 19/11/2019 – 25/11/2019 and 02/12/2019 – 08/12/2019) of waste collected, the accumulated and weighted quantity of MSW results on average at about 33.3 tonnes / day or about 10,017 tonnes / year, producing a generation of about 0,63 kg / capita / day for a service coverage of on an average of 80% of the resident population in Kurbin.

In addition of weighted MSW, an amount of 6,4 tonnes/day or a total of 2,140 tonnes/year of mixed solid waste (inert waste from construction and demolition mixed with other municipal waste) is also collected.

From this amount it is estimated that about 40% or 877 tonnes/year consist of mixed domestic waste and the rest of 1,262 tonnes / year mixed inert waste which will contribute to the total collected amount with about 0.13 kg /cap/day.

To enable a calculation of the MSW generated on the territory of the municipality as close to reality as possible, the effect of the religious touristic activity was also taken into account. As stated form municipality reports the place is visited by about 1,000,000 tourists for 13 consecutive Tuesday during March – May of each. To take into consideration waste generated from them an amount of about 0.1 kg/cap/day is estimated to contribute to the overall amount of MSW collected in the area, giving an annual throughput of about 100 tonnes/year or as much as 0,01 kg/cap/day when dedicated to the total population.

Based on population served and waste measurements as above delineated, the following table indicates for the amount of MSW collected in the territory of the municipality

Table 20: Total MSW collected, 2019

Waste categories	Quantity (2019)
Total household waste collected	10,017
Total household waste as separate fraction of mix waste	2141
Total collected of inert waste as a separate fraction of mix waste	877
Amount calculated to include tourism impact	100
Total MSW collected	12,158
Total daily MSW collected (tonnes/day)	33.3

To calculate the total MSW generated in the territory of the municipality, a generation coefficient of 0.29 kg/cap/day of MSW is used to estimate waste from unserved population mostly situated in remote rural areas, to account for a total of 1,154 tonnes/year MSW generated and uncollected, to sum up as in the following table.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Table 21: Total MSW generated, 2019

Municipality	Kurbin (2019)
Total population	54,666
Served population	43,760
% of served population	80%
Generation per capita for waste collected(kg/cap/day)	0.77
MSW Collected (tonnes/year)	12,157
Estimated generation per capita of not served areas (tonnes/year)	0.29
MSW produced in not collected in remote area (ton/year)	1,154
MSW Generated	13,312

At the daily bases the municipality collects about 33.3 tonnes/day. It is necessary to mention that due to collection frequency and the large territory to cover collection is carried out in 2 service zones through a confusing network of itineraries using 4 compactor trucks for collection of MSW from curbside containers and 1 top open truck for the collection of mix-inert waste.

Projections for the purpose of the LWMP indicate that by 2025, for an average coverage of about 92%, including a reduction by 4.5% of the total waste collected, which constitutes 7% of biodegradable waste and by about 3.5% of the total waste collected, which constitutes 17% of recyclable waste, in 2025 the municipality will transport and dispose about 11,547 tonnes/year compared to the calculated amount of 12,549 tonnes/year collected for the same year.

The table below provides for a summary of figures as the year of 2025..

Table 22: : Total MSW generated and collected, 2025, Kurbin

Municipality	Kurbin 2025
Total population	52.632
Served population	48.321
% served population	92%
Generation for waste collected in areas served after 2019 (kg/cap./day)	0,71
Estimated generation for waste collected in areas served after 2019 (kg/cap/day)	0,295
MSW collected (t/year)	12,549
Total MSW collected (t/year)	13,014
MSW not collected (t/year)	465
MSW disposed to landfill (tonnes/year)	11,547
MSW reduced (tonnes/year)	1,003

A revised and adjusted collection system is designed by URI as part of the Local Waste Management Plan to become effective starting by 2021 towards 2025. The new system is designed in two alternatives:

1. MSW are disposed to the current disposal site;
2. MSW are disposed to the landfill of Bushat.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

According to this new system, the number of itineraries is reduced in 5, and the distance of each truck to the landfill and back to the parking lot is also calculated separately as compared to the transport of waste to the current disposal site.

Table 23: Transportation distance of each itinerary to landfill and back to the Parking lot

Service Zone/Itinerary	Km to disposal site (DS)	Km from DS to parking lot	Km to the landfill	Km from landfill to parking lot
Laç 1	3	3	40.6	42.9
Laç 1	3	3	40.2	42.9
Mamurras	5	3	42.5	42.9
Fushë-Kuqe	5	3	38.4	42.9
Milot	4	3	36.5	42.9

Based on the new system and relevant to the final destination of waste disposal, related costs are calculated as compared to the current service costs as well. The summary of cost data indicates that the new system with 10 % more coverage, including about 177,000 EUR capital investments, will reduce costs of the service in 2025 by about 53% without changing the final destination of waste.

The other alternative for the same targets and capital investments, but with a clear and major environmental benefit due to the transfer of wastes to the landfill of Bushat, will yield a cost increase by about 60% including a major improvement in the service quality, but still 26% less as compared to the current costs.

Table 24: Summary collection, transportation, disposal and treatment of MSW relevant to the disposal site and as compared to the current costs. Kurbin

Comparative costs for scenario 0	Current service costs (EUR/2019)	Option 1 Transportation to deposit site	Option 2 Transportation to landfill	% change
GRANDTOTAL INVESTMENTS		EUR 177.261	EUR 177.261	0%
Operation costs		EUR 181.610	EUR 310.176	71%
Amortization costs		EUR 11.529	EUR 11.529	0%
Administration costs		EUR 17.383	EUR 28.953	67%
Net income		EUR 7.726	EUR 12.868	67%
GRANDTOTAL	471,910	EUR 218.247	EUR 363.526	67%

A detailed costs calculation of cost based on financial classification including capital investments required to install the new proposed system is shown as in the following table.

Table 25: Analytical comparative operational costs for both alternatives

Summary of costs for scenario 0	Option 1 Transportation to DS (EUR)	Option 2 Transportation to landfill (EUR)
Investments		
Waste collection: truck, bins and composting containers	EUR 177.261	EUR 177.261
Waste transportation to landfill	EUR 0	EUR 0

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

GRANDTOTAL INVESTMENTS [ALL]	EUR 177.261	EUR 177.261
Operation costs		
Waste collection	EUR 178.482	EUR 179.061
Waste transportation	EUR 3.128	EUR 32.867
Waste deposit and treatment	EUR 0	EUR 98.247
Subtotal operating costs [ALL/year]	EUR 181.610	EUR 310.176
Amortization costs		
Waste collection	EUR 11.529	EUR 11.529
Waste transportation	EUR 0	EUR 0
Subtotal amortization costs [ALL/year]	EUR 11.529	EUR 11.529
Administration costs and net income		
Administration costs [ALL/year]	EUR 17.383	EUR 28.953
Net income [ALL/year]	EUR 7.726	EUR 12.868
GRANDTOTAL OPERATIVE COSTS [ALL/YEAR]	EUR 218.247	EUR 363.526

The difference between two alternative (disposal to existing DS vs disposal to landfill of Bushat) grow is estimated by an average difference of 67% which derives basically from the difference relevant to the transportation cost of about 29,740 EUR but mostly from disposal and treatment cost at about 98,200 EUR, which both makes about 35 % or about 127,939 EUR higher as compared to the first alternative (calculations are made for a gate fee to the landfill equal to about 9,0 EUR/ton including VAT).

These calculations suggest that installation of the new system including required capital investment and the disposal of waste to the landfill of Bushat, will cost to the municipality of Kurbin a net decrease of service costs with about 108,384 EUR as compared to the current service costs for a better coverage, better service quality and an substantial improvement from the environmental aspect.

Key Note 3: Cost demand for Malësi e Madhe and Kurbin to comply with the scenario

In order that this scenario is agreed to become operational, both municipalities have to adopt the collection and transport the new system as proposed in the new Local Waste Management Plan which leads to slight increase of costs for Malësi Madhe and moderate reduction of costs for Kurbin to cover additional costs required investments, increased expenses of transportation and payment of the gate fee for disposal of waste to the landfill of Bushat. This initial phase of the regional scheme might start the implementation in 2020 or at the latest in 2021. Implementation of Scenario 0 for the municipality of Kurbin would require revision of the service contracts of the municipality with the Service Providers.

On the other side, the central government should get committed and involved to allocate necessary budget for the closing of existing disposal sites and perhaps BtF could also help to convert these places as designated areas for the disposal of inert waste.

7.1.4. Measures to improve implementation of Scenario 0

Changes and improvements of the instruments for the management of MSW at regional scale should be geared by a common interest and be based on a process that develops through a step by step process and various scenarios as in the following:

- a. Minor changes of the existing instruments such as might be the revision of agreements between Vau i Dejës municipality and the other municipalities of the Waste Zone, as well as
- b. The revision of the contract between “Ndërkomunale sh.a” and municipalities as well as the Service Contract with the Private Operator.

Initial immediate changes shall ensure for:

- **First**, that Landfill of Bushat is accredited with the statute of a regional facility for the integrated management of MSW in the WMZ of Shkodër – Lezhë, as such it is built to serve to all municipalities in the WMZ; this has to be officially recognized first and foremost from the municipality of Vau Dejës. Approval of the Masterplan from MIE shall constitute the statute of the facility, but not necessarily to wait until that happen.
- **Second**, the agreement shall ensure for the inclusion of necessary instruments to allow for a transparent monitoring and evaluation of the performance of the landfill operator and the inclusion of necessary instruments to ensure an open discussion and transparent decision making on costs and related gate fee relevant to operation of landfill, including sanctions should the later fail to do so:
 - o Preparation of a Business Plan accessible to all municipalities;–
 - o Access to cost calculation of all municipalities;
 - o Establish a monitoring, evaluation and reporting system with the participation of representatives from all municipalities, MIE and MTE.
- **Third**, to make place for the involvement of Central Government authorities as a stakeholder with the responsibility to guarantee for the execution of the agreement, adjustment of relationship between municipalities and monitor performance. The role of Central Government should condition the planning and ensuring additional necessary financing for improvement and potential extension of the landfill and provision of other services that would convert it into a Waste Treatment Facility.

In the framework of the project, BtF should engage into the facilitation of discussions to involve all municipalities of the Zone to start with Shkodër, Lezhë, Malësia Madhe and Kurbin municipalities and later the other municipalities of the region.

Parallel to that, BtF should involve the line ministries, specifically MIE and MTE, so all stakeholder would get acquainted with the intentions and the objectives of the initiative to operationalize the regional scheme applying a step by step approach.

Furthermore, in a later phase corresponding with the second phase as defined from the Masterplan, fundamental and advanced changes and adoptions should be made for the regional institutional structure and the management of the regional infrastructure of waste treatment in a regional scale, which could start with:

- a. The transformation of the current structure of the JSC of “Ndërkomunale Bushat” into a JSC, which shares are allocated to all municipalities within the Shkodër – Lezhë Waste Management Zone (WMZ).

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

- b. Signature and approval of an Inter-Municipal Agreement between municipalities in the region to recognize their joint intention for the management of the regional infrastructure for the management of MSW

This means that the shares owned from Vau Dejës should be reallocated to other municipalities proportionally to the number of population based on an **Inter – Municipal Agreement (IMA)** that shall be subject of approval of all municipal councils composing the company.

Based on the IMA, municipalities shall reregister the Joint-Stock Company and redefine its scope of work based on a new statute that shall be subject of approval of all municipal councils composing the company.

Key Note: Inter-municipal agreement

At the core of all legal and institutional transformations at a regional scale stands the achievement of an **inter-municipal agreement** of either bilateral or zonal of two municipalities or more municipalities within the jurisdiction of the WMZ; this is indispensable for the municipalities of Malësia Madhe and Kurbin so that they join Shkodër, Lezhë and Vau Dejës to dispose their waste in Bushat Landfill. This particularity is the only necessity and indispensable condition that enables application of the most advanced available options for the organizational structure of public administration, including participation of the private sector for the integrated management of MSW.

7.2. Scenario 1: Establishment of initial regional scheme basics

Scenario 1 may be developed in at least one or more options. To make the document friendlier for the reader and the user of this document, we are taking into consideration only one option, which schematic presentation of the organizational aspect is shown in the following flowchart. In general terms this flowchart implies the implementation of a full-fledged regional scheme to start with the construction of the infrastructure network of Transfer Stations where waste are briefly held until reloaded into bigger containers for optimization of transportation costs initially in Malësia e Madhe and Kurbin and then to the other municipalities.

Scenario 1 implies further institutional transformation of the initial regional scheme.

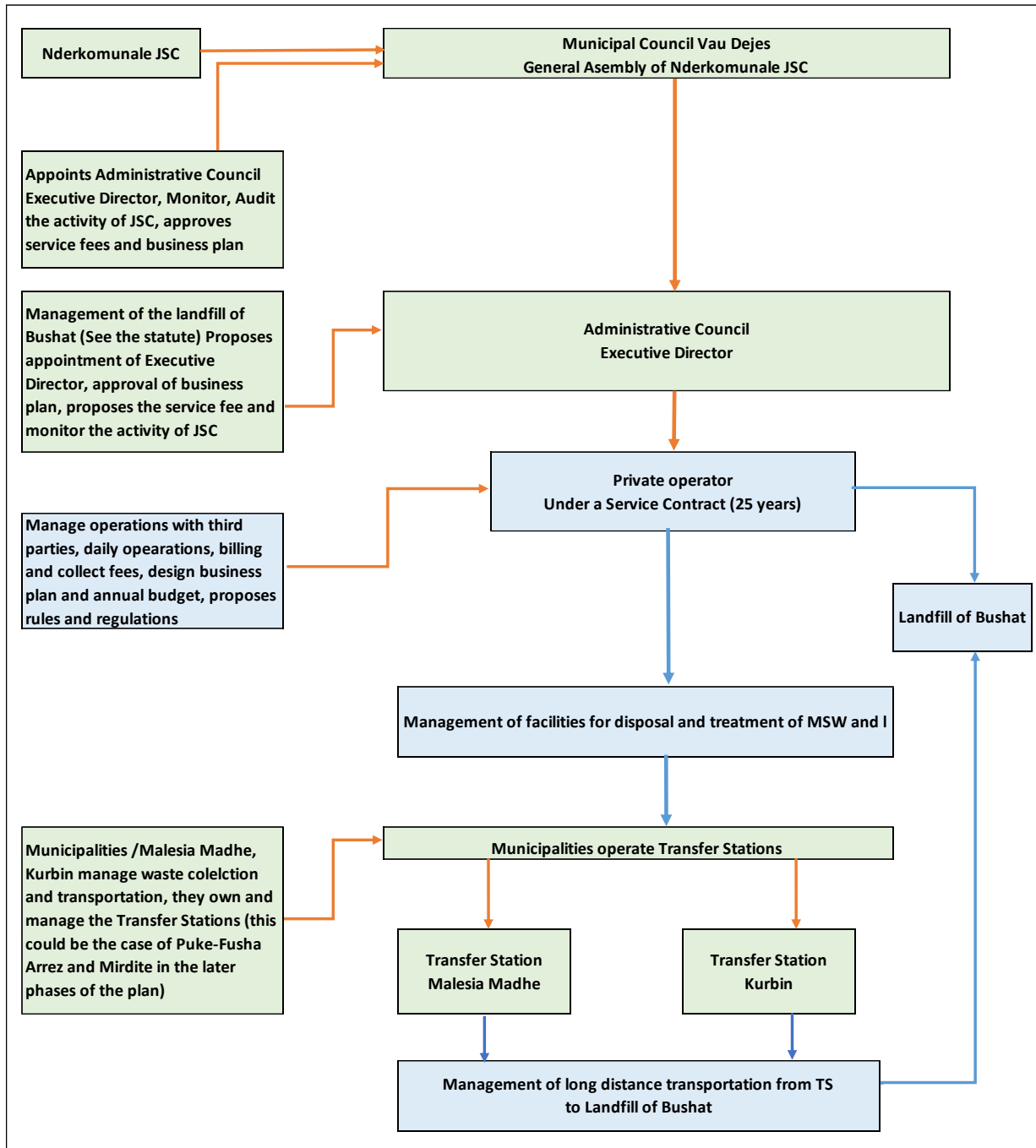
This Scenario introduces changes in the management modalities:

- a. The regional landfill is owned by the municipality of Vau Dejës and managed by Ndërkomunale Sh.A with operation subcontracted under a 25 years' service contract to a private operator;
- b. Transfer Stations of Malsia Madhe and Kurbin are owned and operated by respective municipalities;
- c. Long distance transportation of MSW from the TS to the landfill is subcontracted to "Ndërkomunale Sh.A". Necessary equipment to carry out long distance transportation combine one truck and three trailers of 20 tonnes each that will serve to both Malësia e Madhe and Kurbin municipalities
- d. Based on the transportation hours per week required in each municipality, the rate of use of the transportation truck is 75% for Kurbin and 25% for Malësia e Madhe, which is respectively used to share the maintenance and amortization costs of the truck and one trailer.

A complete regional scheme would also require for the extension and improvement of the landfill of Bushat and the construction of the MBT as proposed in the Masterplan.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 12: Organizational chart of the regional scheme according to Scenario 1



Implementation of Scenario 1 implies the necessity of an Inter-municipal Agreement between Vau Dejës, Malësia Madhe and Kurbin.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

In all cases and for both types of facilities operation might be public or private in various forms. Responsibilities of the parties also will remain more or less similar to the current situation.

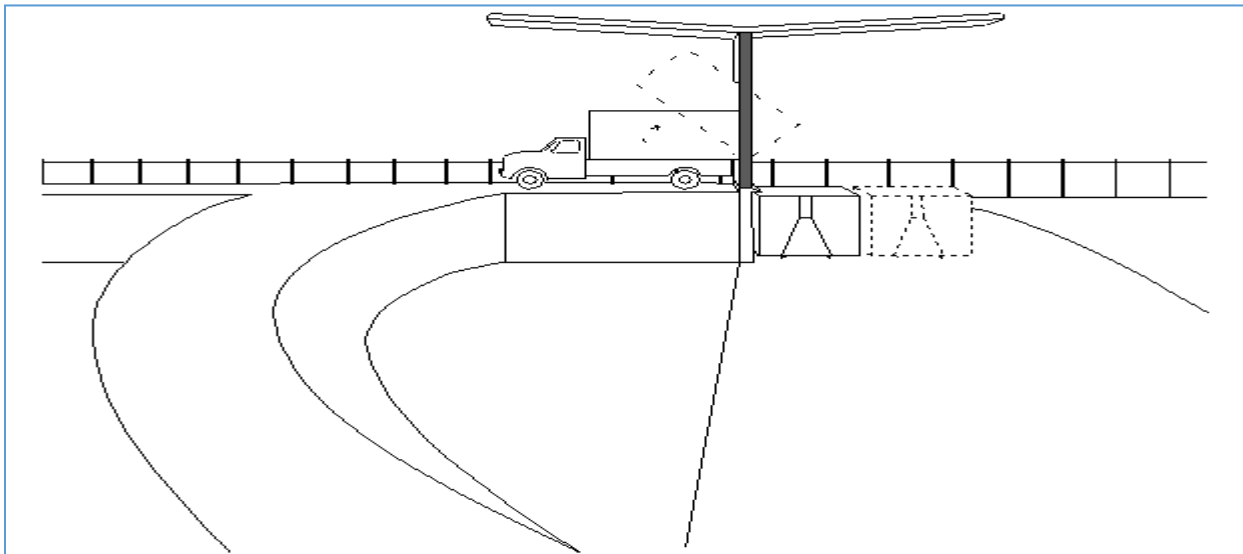
Slight improvements might be introduced from the institutional point of view. A Supervisory Board still is required to regulate the relationship between municipalities and monitor performance and the standard of service delivery.

In response to the requirements of TOR of the mandate, URI has calculated annual costs including necessary costs for the construction of TSs in each municipality and related equipment and costs to the distance hauling of MSW to the landfill of Bushat as in the following.

A short description of the Transfer Station, equipment and operation is given prior to the development of each option.

The simplest format of and what it is generally known as the ramp type Transfer Station for the construction and easy operation of which a minimum area of about 4,000 to 5,000 m² is required.

Figure 13: A simplified sketch of a ramp type Transfer Station



On this surface, a ramp is built (a place raised from the ground with a height of up to 4 m) on which small vehicles will climb to unload the waste in large containers with a capacity of 20 - 30 tonnes. Large containers will then be transported to Bushat landfill. The part of the ramp where the waste will be unloaded and loaded is covered to prevent the leakage of waste.

Basic equipment that are used for the operation of this type of TS include a roll up – roll off transportation truck and either big compactor or top open up containers with an optimal capacity of about 20 - 30 ton, depending of the road access and the facility of traffic mobility from the TS to the landfill.

The pictures below represent application of this type of TS in the municipality of Erseke as part of the integrated infrastructure network of Korca WMZ and relevant equipment.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 14: Transfer Station of Erseke, Korca WMZ



Figure 15: Basic equipment for the operation of the TS and long distance transportation



This type of TS may accommodate up to 15.0 tons /MSW/day; at the same time this facility could make enable the collection and treatment of clean inert waste from construction and demolition as well as voluminous waste. These operations will be established after the conditions are created and the necessary equipment is provided to enable their treatment.

7.2.1. Cost analysis of Scenario 1 for Malësia e Madhe

The analysis for this Scenario is based on the waste categories and amount as delineated in the above relevant paragraph (6.2.1); while a transfer station is assumed to become effective, the distance from the transfer station to the landfill Bushat becomes approximately at an average of 37 km from the end of the collection routes to the transfer stations.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

In the transfer station, one transportation truck with 2 trailers of 20 tonnes will be operational, of a fullness factor of 85%, therefore, an effective capacity of about 17 tons. The total transportation time, including time of the truck to load and to unload, reaches 1.6 hours.

For calculating the frequency of transportation of waste to the landfill, will depend on the daily throughput of MSW which for 2025 is calculated at about 13 tonnes/day, therefore it is assumed that waste collected from the municipality will be held in the transfer station for a maximum of one week or less. With 91.1 tonnes/week. Taking into consideration an effective capacity of the truck of about 17 tonnes, waste needs to be transported to the landfill 5 times per week.

Table 26: Waste collection data projection for Malësia Madhe, 2025

Waste collection data 2025	Malësia Madhe
Total population served with waste collection	33.939
Population served with recyclable waste collection ¹⁷	3.251
Population served with biodegradable waste composting	4.084
Population served with mixed waste collection	26.604
Total waste collected per year [t/year]	5.257
Recyclable waste collected per year [t/year]	129
Biodegradable waste composted per year [t/year]	378
Mixed waste collected per year [t/year]	4.750
Mixed waste collected per week [t/week]	92

These may be 5 different days or less, since the transportation time is less than the half of a working day, thus more than one time may be traveled within the 8 hours working time. Because this frequency allows for a truck time of use of less than a technical norm of 16 hours, only one transportation truck is needed; in addition, also one additional trailer.

Table 27: Projection of waste transportation data, Malësia Madhe, 2025

Waste transportation data 2025	Malësia Madhe
Capacity [t]	20
Fullness factor [%]	85%
Effective capacity [t]	17,0
Estimated time to load at the transfer station [h]	0,3
Average speed of trucks during transportation to landfill	40,0
Distance from transfer station to landfill, one way [km]	36,2
Transportation time to landfill [h]	1,8
Estimated time to unload at the landfill [h]	0,1
Total time spent for transport [h]	2,2

¹⁷ Number of population served with recyclable waste collection and also with composting of biodegradable waste is calculated based on the respective waste quantities planned to be collected in 2025, in the local plan for the waste management service of Malësia e Madhe, 2020-2025. Therefore, they are only an approximation, while the basis of cost calculations is waste quantities.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Maximum time of use [h]	16,0
Frequency of transportation per truck per week [times/week]	5,0
Number of transportation trucks required	1,0
Number of additional trailers required	1

The total hours of transportation and maintenance of the transportation driver are 1.8, which amount to a total of 368 hours per year. These represent approximately 20.3% of the 1,808-total legal (effective) working hours of one year, considering 20 days of annual vacation and 14 official holidays, which is applied as a rate of employment upon the yearly salary of the driver.

The following table presents the annual operating cost for option 1 of scenario 1.

Table 28: Total cost for the management of MSW with a TS, scenario 1, option 1, Malësia e Madhe,

Summary of costs	ALL	EUR
Investments		
Waste collection	17.181.600	EUR 140.833
Waste transportation to landfill	0	EUR 0
GRANDTOTAL INVESTMENTS [ALL]	17.181.600	EUR 140.833
Operation costs		
Waste collection	20.438.134	EUR 167.526
Transfer station	1.092.312	EUR 8.953
Waste transportation	1.851.766	EUR 15.178
Waste deposit and treatment	4.930.865	EUR 40.417
Subtotal operating costs [ALL/year]	28.313.077	EUR 232.074
Amortization costs		
Waste collection	996.533	EUR 8.168
Transfer station	858.000	EUR 7.033
Waste transportation	1.380.000	EUR 11.311
Subtotal amortization costs [ALL/year]	3.234.533	EUR 26.513
Administration costs and net income		
Administration costs [ALL/year]	2.839.285	EUR 23.273
Net income [ALL/year]	1.261.904	EUR 10.343
GRANDTOTAL OPERATIVE COSTS [ALL/YEAR]	35.648.799	EUR 292.203

At the transfer station, 3 staff have been assumed for the calculations, which may represent 2 eight-hour shifts of operating the object and 1 shift of guarding, otherwise 2 workers and 1 guard. The current minimal legal monthly salary of 26,000 ALL has been considered for these workers.

Option 1 of scenario 1 assumes that waste management, collection, transportation services are provided by municipality. Operating cost includes also the amortization cost for transportation truck. The transfer station workers' salary, together with the amortization cost of the other assets of the transfer station (construction, weighing scale, and additional trailer), would then be covered from the municipality.

The above table provides for all cost items for the waste management service in Malësia e Madhe, with waste deposited and treated in the landfill of Bushat through a transfer station and hauling of waste to landfill operated under subcontract with Nderkomunale Sh.a.

No investments have been included in the calculations, taking into account that the collection trucks and containers are as already in operation in the municipality, while the investment for the transportation of waste to the landfill of Bushat and the transfer station are expected to be financed from external funding resources. On the other hand, amortization costs have been calculated applying market prices for collection trucks and bins, waste transportation trucks with trailer, and the cost plan for the construction of a transfer station as provided from Malësia e Madhe Municipality; the amortization rates applied are those currently regulated by law.

7.2.1.1. Comparison of Cost Analysis of Option 2 of Scenario 0 and Scenario 1 for the municipality of Malësia e Madhe

For the purpose of this exercise a cost analysis comparison of results of service costs is made for Option 2 of Scenario 0 to imply transport of MSW to landfill of Bushat as collected; and Scenario 1 to imply the transport of MSW to the landfill of Bushat through a TS.

Table 29: Cost analysis comparison of most effective options (Option 2 of Scenario 0 and Scenario 1), Malësia e Madhe

Comparative costs for scenario 0 – version 2 and scenario 1 - version 2b	Transportation directly to LF (Option 2, Scenario 0)	Transportation through TS – one truck (Scenario 1)	% change
GRANDTOTAL INVESTMENTS	EUR 140.833	EUR 140.833	0%
Operation costs	EUR 229.913	EUR 228.849	-0.5%
Amortization costs	EUR 8.168	EUR 17.644	116%
Administration costs	EUR 21.427	EUR 22.184	3.5%
Net income	EUR 9.523	EUR 9.860	3.5%
GRANDTOTAL OPERATIVE COSTS	EUR 269.032	EUR 278.537	3.5%

Figures as in the above table indicate that direct transfer of MSW to the landfill of Bushat versus transportation through using a Transfer Station only for the purpose of operationalization of transportation costs as part of the overall cost for the management of the service look like even, the difference is only 3.5% higher as compared Option 2 of Scenario 0; most of the difference is due to higher amortization costs which are related to the TS facility and equipment that are used for its operation.

7.2.2. Cost analysis of Scenario 1 for Kurbin Municipality

The analysis for this Option is based on the waste categories and amount as delineated in the above relevant paragraph; while a transfer station is assumed to become effective, the distance from the transfer station to the landfill Bushat becomes approximately 43.5 one way from the end of the collection routes to the transfer stations.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

In the transfer station, a transportation truck with 2 trailers of 20 tons each will be operational, of a fullness factor of 85%, therefore, an effective capacity of 17 tons/day will be operated. The total transportation time, including time of the truck to load and to unload, reaches 2.5 hours.

Table 30: Waste collection data, Kurbin 2025

Waste collection data 2025	Kurbin 2025
Total population served with waste collection	48.321
Population served with recyclable waste collection ¹⁸	7.826
Population served with biodegradable waste composting	3.643
Population served with mixed waste collection	36.852
Total waste collected per year [t/year]	12.550
Recyclable waste collected per year [t/year]	436
Biodegradable waste composted per year [t/year]	567
Mixed waste collected per year [t/year]	11.547
Mixed waste collected per week [t/week]	221,5

For calculating the frequency of transportation of waste to the landfill, it is assumed that waste collected from the municipality remains on hold in the transfer station for a maximum of one week or less. With 221.5 tons of waste produced and collected in one week, it is calculated that waste needs to be transported to the landfill 13 times/trucks per week. These may be carried out in 7 or less different days, since the transportation time is less than the half of a working day, thus more than one time may be concluded within the 8 hours working time. Because this frequency allows for a truck time of use of less than a technical norm of 16 hours, only one transportation truck is needed; in addition, also one additional trailer, given that the equipment and the truck for transportation and disposal shall be shared with the Municipality of Malësia e Madhe.

Table 31: Waste transportation data, Kurbin 2025

Waste transportation data 2025	Kurbin 2025
Capacity [t]	20
Fullness factor [%]	85%
Effective capacity [t]	17,0
Estimated time to load at the transfer station [h]	0,3
Average speed of trucks during transportation to landfill	40,0
Distance from transfer station to landfill, one way [km]	43,5
Transportation time to landfill [h]	2,2
Estimated time to unload at the landfill [h]	0,1
Total time spent for transport [h]	2,5
Maximum time of use [h]	16,0
Frequency of transportation per truck per week [times/week]	13,0

¹⁸ Number of population served with recyclable waste collection and also with composting of biodegradable waste is calculated based on the respective waste quantities planned to be collected in 2025, in the local plan for the waste management service of Kurbin, 2020-2025. Therefore, they are only an approximation, while the basis of cost calculations is waste quantities.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Number of transportation trucks required	1,0
Number of additional trailers required	1

The total hours of transportation and maintenance of the transportation driver are 1.8, which amount to a total of 368 hours per year. These represent approximately 20.3% of the 1,808 total legal (effective) working hours of one year, considering 20 days of annual vacation and 14 official holidays, which is applied as a rate of employment upon the yearly salary of the driver.

At the transfer station, 3 have been assumed for the calculations, which may represent 2 eight-hour shifts of operating the object and 1 shift of guarding, otherwise 2 workers and 1 guard. The current minimal legal monthly salary of 26,000 ALL has been considered for these workers.

Scenario 1 assumes that waste management, collection, transportation services to the TS are provided by municipality. Operating cost includes also the amortization cost for transportation truck. The transfer station workers' salary, together with the amortization cost of the other assets of the transfer station (construction, weighing scale, and additional trailer), would then be covered from the municipality.

The following table presents the annual operating cost for Scenario 1.

Table 32: Total cost of waste management with TS, Scenario 1, Kurbin

Summary of costs	ALL	EUR
Investments		
Waste collection	21.625.800	EUR 177.261
Waste transportation to landfill	0	EUR 0
GRANDTOTAL INVESTMENTS [ALL]	21.625.800	EUR 177.261
Operation costs		
Waste collection	21.774.792	EUR 178.482
Transfer station	1.092.312	EUR 8.953
Waste transportation	3.641.279	EUR 29.847
Waste deposit and treatment	11.986.140	EUR 98.247
Subtotal operating costs [ALL/year]	38.494.523	EUR 315.529
Amortization costs		
Waste collection	1.406.552	EUR 11.529
Transfer station	843.641	EUR 6.915
Waste transportation	1.038.361	EUR 8.511
Subtotal amortization costs [ALL/year]	3.288.555	EUR 26.955
Administration costs and net income		
Administration costs [ALL/year]	3.760.477	EUR 30.824
Net income [ALL/year]	1.671.323	EUR 13.699
GRANDTOTAL OPERATIVE COSTS [ALL/YEAR]	47.214.878	EUR 387.007

The above table provides for all cost items for the waste management service in Kurbin, with waste disposed and treated in the landfill of Bushat through a transfer station and hauling of waste to landfill operated under subcontract with Nderkomunale sh.a

Cost estimate provides also for additional investments in the collection system (to include containers and a truck), while the investment for the transportation of waste to the landfill of Bushat and the transfer station are expected to be financed from external funding resources. On the other hand, amortization costs have been calculated applying market prices for collection trucks and bins, waste transportation trucks with trailer, and the cost plan for the construction of a transfer station as provided from Kurbin Municipality; the amortization rates applied are those currently regulated by law.

7.2.2.1. Comparison of Cost Analysis of Option 2 of Scenario 0 and Scenario 1 for the Municipality of Kurbin

For the purpose of this exercise a cost analysis comparison of results of service costs is made for Option 2 of Scenario 0 to imply transport of MSW to landfill of Bushat as collected; and Scenario 1 to imply the transport of MSW to the landfill of Bushat through a TS.

Table 33: Cost analysis comparison of most effective options (Option 2 of Scenario 0 and Scenario 1), Kurbin

Comparative costs for scenario 0 – version 2 and scenario 1 - version 2b	Transportation directly to LF (Option 2, Scenario 0)	Transportation through TS – one truck (Scenario 1)	% change
GRANDTOTAL INVESTMENTS	EUR 177.261	EUR 177.261	0%
Operation costs	EUR 310.176	EUR 315.529	1.7%
Amortization costs	EUR 11.529	EUR 26.955	134%
Administration costs	EUR 28.953	EUR 30.824	6.5%
Net income	EUR 12.868	EUR 13.699	6.5%
GRANDTOTAL OPERATIVE COSTS	EUR 363.526	EUR 387.007	6.5%

Figures as in the above table indicate that direct transfer of MSW to the landfill of Bushat versus transportation through using a Transfer Station only for the purpose of operationalization of transportation costs as part of the overall cost for the management of the service look close, the difference is only 6.5% higher as compared Option 2 of Scenario 0; most of the difference is due to higher amortization costs which are related to the TS facility and equipment that are used for its operation.

7.2.3. Involvement of Private Sector as Institutional Options for the management of regional scheme considering current “Scenario 0”

7.2.3.1. Municipality of Malësia Madhe

The service of collection, removal and disposal of waste is currently carried out by the Sector of Public Service, which is part of the organization structure of the municipality. In addition of the management of MSW, the Sector is entitled to carry out other public services that are subject of municipal functions.

The municipality might desire to involve a private operator to render the service of collection, removal and disposal of waste at the current disposal site; the municipality might also desire to involve a private operator for the long distance transportation, in case the decision for the disposal and treatment of waste to the landfill of Bushat is made. Both services might be carried out by the same or separate private operators.

At any case, with respect the procurement legislation, the municipality should go through the procedures of public procurements process and in this case a “service contract” is recommended as the most viable instrument for the involvement of a private operator.

7.2.3.2. Municipality of Kurbin

The service of collection, removal and disposal of waste is organized into two service areas; the service currently is carried out by two private operators whom are contracted out from the municipality to cover collection, removal and disposal of waste in each of the specified service zones. Both private operator are selected through the public procurement procedures; the municipality is using “service contract” as the legal instrument for their engagement.

The municipality might desire to involve a private operator to render the long distance transportation in case the decision for the disposal and treatment of waste to the landfill of Bushat is made. Both services might be carried out by the same or a separate selected private operators.

At any case, with respect the procurement legislation, the municipality should go through the procedures of public procurements process and in this case a “service contract” is recommended as the most viable instrument for the involvement of a private operator.

For the case of Kurbin, an assessment for long distance transportation of MSW to the landfill of Bushat is carried out from Helvetas – Bashki te Forta program. Among three alternatives: (i) direct transportation; (ii) transportation involving a transfer station; and (iii) contracting a private operator that would ensure to briefly hold , conduct separation of recyclable and transportation of waste to Bushat. The Report¹⁹ suggest as the most favorite alternative the contracting of the operation with a private operator, namely “VALE Recycling”, a company situated in Kurbin, which scope of work is waste collection, treatment and transportation.

Still the report reminds that involving VALE would require a service contract with strong conditions at short or mid time terms; however the report does not consider that the selection of a private operator would require that the municipality is binding to go through an open public procurement process for the selection of the operator, so that VALE should compete with other potential private operators and the final result of

¹⁹ Cost calculation results for Malesia e Madhe and Kurbin, CSD ENGENIEURS SA, 04.02.2020

such process might compromise the desired result, otherwise the contracting of VALE Recycling as it is suggested from the aforementioned report.

Key Note 4: Public Procurement

In practical terms, involvement of a private operator at any case or development stage of the project would require application of public procurement procedures and as consequence to follow some basic rules that would start with the issuance of an order from the mayor, establishment of the assessment commission, establishment of the proposals and a preliminary cost estimate for the required action, detailed Terms of Reference and Technical Specifications and a model Service Contract.

7.2.4. Recommendations for the Municipalities of Malësia Madhe and Kurbin in the sight of the regional dimension

Comparison of costs of various scenarios indicate that improvement of the service management scheme based on an effort to imply trace and error method would create the conditions for both municipalities of Malësia e Madhe and Kurbin to create sufficient resources for the transfer of MSW to the landfill of Bushat starting at least from 2021 or even earlier should financial support is provided to them from other external sources.

Parallel to that the MIE and MTE should budget for closing of existing disposal sites and conversion of these sites as destinations for the disposal of inert waste.

Both municipalities are designing new LWMP, and therefore officials of these municipalities should stick to the implementation of these plans by ensuring human, technical and financial resources, given that projections as provided with the LWMP indicate that new proposed systems are quite feasible from the financial point of view.

Both municipalities should start with practicing waste avoidance initially through individual home composting and gradually to start implementing composting at small scale, implying group of villages or at the Administrative Unit scale.

BtF or other donors should support both municipalities to implement their new LWMP; the support could be of the following order:

1. Finance the costs for transportation and disposal of MSW to the landfill of Bushat,
2. Finance capital investments for municipalities to implement the LWMP with particular priority given to the practicing of individual composting, provision of any truck (the case of Kurbin) in better case as compared to the existing ones, and a relative number of containers that shall serve to replace those damaged and extend the coverage,
3. Support with education and awareness materials and activities,
4. Support with intermediation to involve line ministries to providing financing for closure of existing dumpsites and potentially converting these places for the disposal of clean inert materials.

Although comparison of costs indicates that when using transfer stations, overall service costs are relatively higher as compared to the direct transfer of MSW to the landfill of Bushat, we would recommend that the use of transfer stations in overall and at long term is recommended as a worth option for both municipalities. This recommendation is based on the following arguments:

1. In the long term with the fulfilment of the legal amortization period of both facilities and equipment, amortization costs shall decrease towards zero, so that the total operation costs of the transfer station and waste transportation will therefore decrease to make operation of these facilities affordable for both municipalities.
2. If a regional scheme shall be established and integrated management of MSW through waste reduction modalities, the transfer stations shall become grounds for facilitation of activities of the municipalities for the management of other waste streams such as composting, sorting for recycling and management of bulk waste end even construction and demolition waste, therefore providing a value added into the integrated waste management system and overall environmental impact.

In the meantime, at regional scale, improvements of the situation at the landfill of Bushat are required, to include:

3. The technical assessment of current conditions and design and financing the implementation of measures that shall ensure:
 1. long term increased capacities,
 2. fulfillment of sanitary and engineering conditions;
 3. gas capture and leachate control and treatment,
 4. improvement of access road,
 5. design a new business plan to share and discuss with other municipalities in the region
 6. design a new regulation and protocol for the disposal and treatment of waste
 7. Monitoring of operations and annual assessment of environmental conditions.
4. Finally, a Feasibility Study at a complete scale is necessary to be conducted for the assessment of all regional infrastructure network of the Shkodër – Lezhë WMZ.

7.2.5. Implementation and Operational Phases of the Regional Scheme

The implementation of the operationalization plan for Shkodër - Lezhë waste catchment area, with a priority focus on the involvement of Malësia e Madhe and Kurbin municipalities, might be developed following a three – phase approach (see schematic presentation in the figure below). This approach is geared by the prioritization of necessities at the regional scale, taking into consideration the scope of work from the mandate of URI as of the contract with BtF and also to cope with the “Sector Study Investment Demand Integrated Solid Waste Management (Masterplan)” and the “Draft Strategic Policy Document and the National Plan for Waste Management, 2018-2033”.

While municipalities of Shkodër, Lezhë and Vau Dejës dispose already their MSW to the landfill of Bushat, essential priority list of action includes development of a solution for the disposal of waste to imply the municipalities that are more in need, to start respectively with Kurbin and Malësia Madhe, but also to consider step – by – step implementation of waste reduction applications at local and regional level, as in the following:

1. Collection and long distance hauling of Municipal Solid Waste (MSW) to the landfill of Bushat guided by the amount of waste collected in the municipalities within the catchment area;

2. Reduction of MSW through men friendly methods to meet low level objectives of waste recycling and composting.
3. Institutional transformation of organizational model for the management of MSW at regional scale.

The phased implementation of the regional scheme assumes an open discussion and an efforts for all mayors of municipalities within the Shkodër, Lezhë WMZ to initially agree on the proposed scheme and its gradual implementation. This is an imperative given that Shkodër, Lezhë and Vau i Dejës already dispose their waste in the landfill of Bushat., and upon their experience, municipalities of Kurbin and Malësia e Madhe may consider in their LWMPs the disposal of waste in Bushat landfill and the application of substantially growing measures that encourage waste reduction, and stabilization of the situation with regard other waste types such as construction and demolition and bulk waste.

7.2.3.3. Steps to Implement a Phased Operational Scheme for the Regional Catchment Area

Beyond as above, design a development and management model - scenario and implementation action plan based on a three - phase implementation approach would apply:

1. Brown - Phase 1: Municipalities of Malësia e Madhe and Kurbin dispose heir waste to Bushat landfill, closure of existing disposal sites will follow,
2. Grey – Phase 2: to incorporate Puke and Fushe Arrez in the scheme at a later stage, one Transfer Station is build and operated there, landfill of Bushat improved, waste avoidance through small scale and individual composting is progressing, and differentiated collection of recyclable waste is piloted vastly in urban areas,
3. Green – Phase 3: to incorporate Mirdite municipality in the scheme as the final stage, Transfer Stations I Malësia e Madhe and Kurbin are build and become operational, institutional transformations are extended, a MBT is operational in the landfill of Bushat

As part of the first phase, the municipalities of Shkodër and Lezhë arrange and sign a new agreement with Vau Dejes and a Service Contract with the Ndërkomunale JSC as an opportunity to consider the the institutional transformations of the current organization model for the management of the regional infrastructure. An individual and/or group discussion with the participation of mayors and representatives of line ministries with the facilitation of BtF need to be organized.

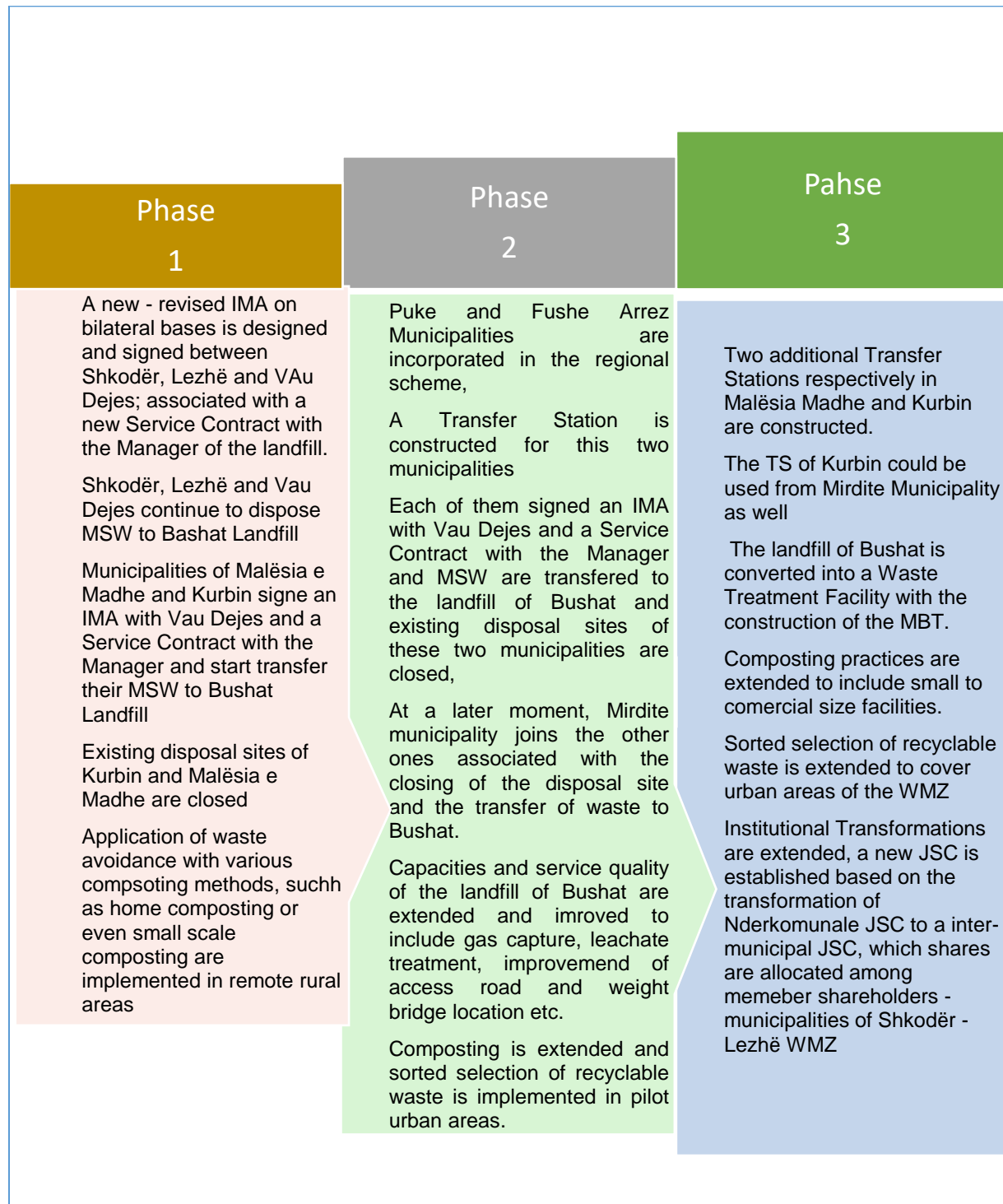
Kurbin and Malësia e Madhe need to budget and carry transportation and disposal of MSW to the landfill of Bushat, while the first phase implementation will also imply them in considering necessary steps to start with the site identification for the construction of the transfer stations respectively one in Kurbin (the most critical case) and another one in Malësia Madhe.

Both cases must be associated with other activities such as closing of existing disposal sites and other activities to support waste reduction, especially in the municipality of Kurbin, which makes the third biggest unit out of 8 municipalities within the catchment areas.

Whereas the Grey phase, involving the municipalities of Puke and Fushe Arrez and Mirdita, which might be seen as a phase that could develop later, followed an substantial improvement of waste disposal condition through rehabilitation and controlling operation of their current disposal waste sites.

The following layout tents to indicate schematically the phasing operationalization of the plan.

Figure 16: Schematic diagram of phased implementation of regional scheme for Shkodër – Lezhë WMZ



The operationalization of the plan is especially related with funding relevant to the construction of basic regional infrastructure including rehabilitation, extension and engineering of the landfill of Bushat

1. LF of Bushat - Hub of the catchment area to be rehabilitated, extended, improved operation to ensure coverage, capture gas emission and leachate treatment at the initial phase and during the second phase upgraded with MBT, financed by GoA- KfW or any other donor;
2. Kurbin municipality in a critical situation, requires a LWMP, closing of existing DS, extension and improvement of collection service and optimize transfer of wastes to Bushat and start - up of initial measures to reduce waste through selection for recycling and home and potentially small scale composting and improve financial situation by setting tariffs to tend cost recovery as part of the first phase, including disposal site closing with GoA funding and and BtF support.
 - In the meanwhile a new place for the TS of Kurbin need to be identified to the condition that all land ownership issues are addressed properly and timely;
3. Malësia e Madhe requires revision of the LWMP, closing of the DS with funding from GoA and funding the extension and improvement of collection service by applying the new system which would take the disposal of waste to the landfill of Bushat.
 - In the meanwhile a new place for the TS of Kurbin need to be identified to the condition that all land ownership issues are addressed properly and timely.
4. Shkodër, Vau Dejës and Lezhë municipalities takes waste to the upgraded LF of Bushat and develop LWMPs that gradually develop sustainably differentiated collection system especially in the touristic and high density populated area, while the MBT in Bushat is build and become operational during the second – third phase,
5. Puke, Fushe Arrez (grey area) considered in a third phase with closing of disposal sites with GoA funding, and the construction of a TS with funding from GoA/KfW :
 - Temporary and immediate action to improve operation of existing DS in each municipality.
 - In the meanwhile a new place for the TS of Kurbin need to be identified to the condition that all land ownership issues are addressed properly and timely.
6. Mirditë continues to dispose waste in the landfill of Mirditë until closing; probably later to dispose waste in the TS of Kurbin .
 - Mirditë landfill to upgrade operation and equipment to ensure compaction, coverage and collection and treatment of gas and leachate.

All the plan need firstly to be agreed with all municipalities within the area and secondly to receive the endorsement from central government authorities, i.e., the Ministry of Infrastructure and Energy and the Ministry of Tourism and Environment; it is strongly suggested that both levels have to establish a “monitoring board” that will ensure planning for funding either from state budget or donors and monitoring of planning execution and compliance with standards.

Although designing a time table for the plan is rather difficult due to unknown variables such as funding and agreement of municipalities, a tentative implementation plan would look like as in the following schedule.

7.2.6. Steps to implement construction of the Transfer Station of Malësia e Madhe

Preliminary necessary steps for the construction of the Transfer Station in Malësia e Madhe would imply the following. The steps are to compile information that is available at the local (administrative) level.

1. This includes, among other things, information about land ownership:

- Land ownership and existing use claims,
- The value of agricultural land or
- Local General Plan and projects.

As experience shows that land ownership and resulting expropriation procedures can be a considerable obstacle for project implementation, this issue has to be carefully evaluated, and otherwise selection of a state owned land parcel should prevail. The detailed assessment of ownership and availability of the site is of high importance to get a clear picture of how to make the site available. The construction of a longer access road could be easier and less costly than the expropriation of several dozen land owners including a resettlement action plan and all related activities and investigations.

The last dot is also important to consider, because the procedures for the issuance of construction permits depends on the destination of the site as it is given from the Local General Plan.

2. Once the above issue of land ownership is addressed, the other step is to define the type of the Transfer Station

As it is earlier reported, the model of TS as it is proposed by dldp/Helvetas needs revision of the concept with primary objective to build an effective facility that fits to the physical conditions of the terrain, but also allows an efficient operation in long term perspective.

3. The preselected site shall then be investigated in detail. As basis for the future design of the TS the following investigations need to be conducted:

- Topographical survey,
- Geological and hydrogeological investigations, in order to assess the suitability of the natural geological barrier, the ground stability and the risk of sliding,
- Assessment of social issues, in order to assess the relevance of potential public grievances, and/or any compensation payments, resettlements and relocations in case when a private owned land parcel is selected for the purpose of the construction of the TS;

Based on the above, to further develop the project the following steps should be taken:

- Once the type of the TS is defined, detailed design for the construction of TS will follow:
 - Preparation of the tender documents for the specialized entity for the development of the technical implementation project for the selected sites - design, engineering, hydro, electrical, ventilation, road access, fire protection
 - Preliminary Environmental Impact Assessment could also be seen as necessary, however legal conditions in any case would prevail.
4. Depending on the destination of the site as defined in the General Local Plan, the municipality will apply for the approval of the construction permit:

- a. To the municipality;
 - b. To the National Council of Territory
5. Preparation of ToRs and tender documents for the implementation/construction of the project (possibly a tender of two lots: facility and road infrastructure)
- a. Preparation of tender documents for the supervision of the construction works of the project
6. Construction phase
- Tender the construction of the TS,
 - Prepare TOR and tender selection of a specialized supervisor,
 - Preparation of tender documents for the inspection and testing of the constructed object
 - Construction works
 - Testing and calibration of the facility
7. Operation of the Transfer Station
- Preparation of technical specification and tender documents for the TSs equipment and support during the procurement of equipment
 - Acquisition of equipment
 - Preparation of job description and contractual arrangements human resources - depending on the management model of the TSs and selection of management and operational staff.

7.3. Scenario 2: Establishment of an integral regional scheme

Scenario 2 might be developed also in two options and is characterized by extensive institutional changes and adoptions of a broad management of the integrated network of the regional infrastructure for the treatment and disposal of MSW.

7.3.1. Option 1: Transformation of “Ndërkomunale Sh.A”:

According to this option, institutional and organizational changes take into consideration the transformation of Ndërkomunale sha into a regional organization, as for the following order of action:

- a. Ndërkomunale Sh.A is transformed into an Inter Municipal Entity of Joint Competence (EJC), organized as a JSC which shares are allocated to member municipalities based on the number of population as enshrined in an Inter Municipal Agreement.

The JSC that shall be created based on the IMA and shall be responsible for the management of the landfill of Bushat
- b. Transfer Stations of Malsia Madhe and Kurbin (when to become operational) are owned by respective municipalities,
- c. In a later phase the TS of Mirditë and Pukë – Fushë Arrëz, are become operational owned and managed by respective municipalities.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

In all cases and for both types of facilities, operation might be public or private in various forms. Responsibilities of the parties also will remain more or less similar to the current situation.

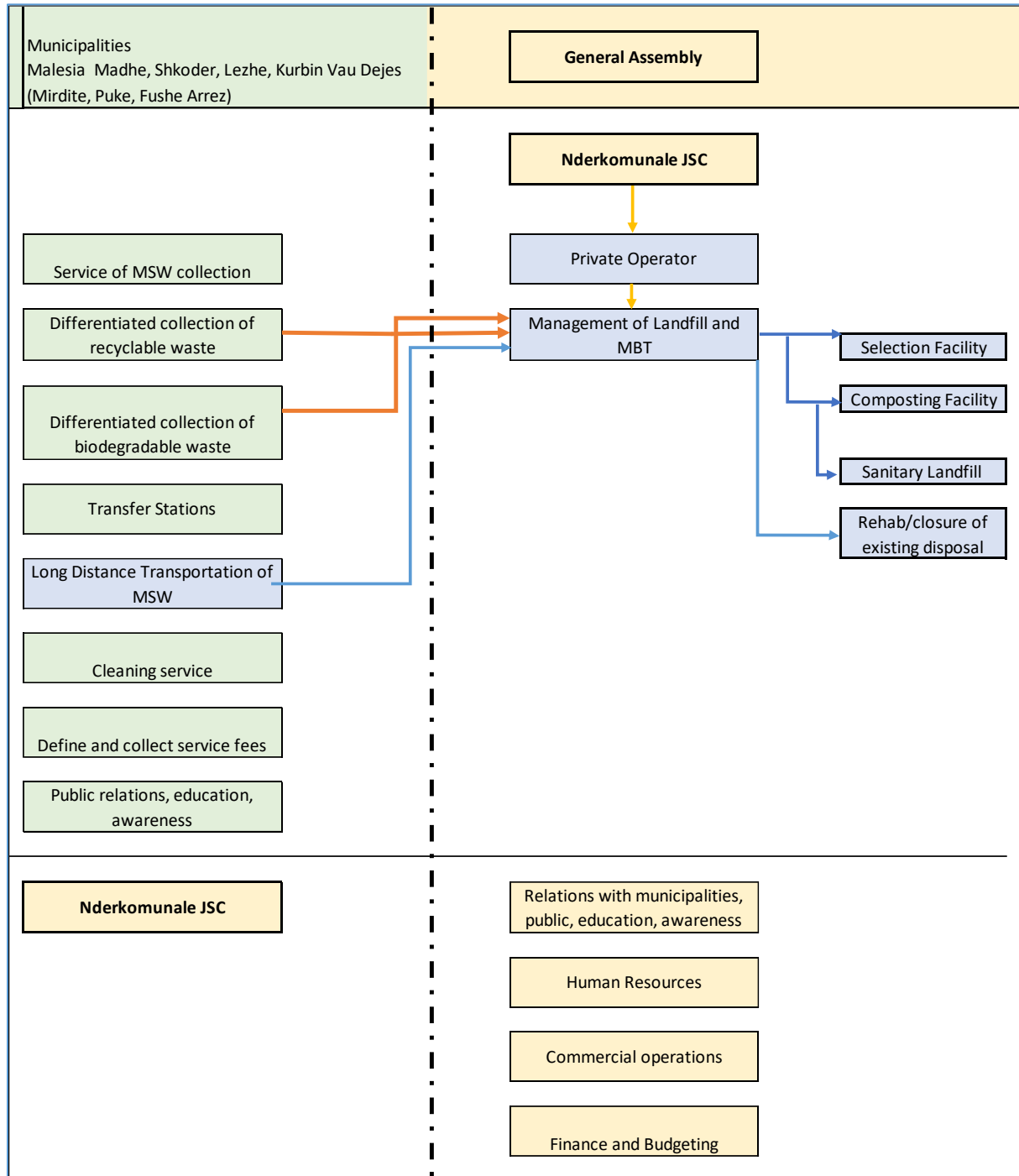
The Supervisory Board shall be established to regulate the relationship between municipalities and monitor performance and the standard of service delivery.

This option creates independency for other municipalities to use Transfer Stations, as it could be appropriate for them. In addition, the municipalities can choose by themselves to perform in these facilities other operations such as separation of waste or even composting of waste.

Under Option 1, the created company will have no role but the municipalities are responsible for the operation and maintenance of these facilities. According to this option, the allocation of responsibilities between the company and the municipalities will have the form as schematically presented in the following:

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 18: Responsibilities, organizational structure and nature of activities of JSC according to Option 1 of scenario 1



7.3.2. Option 2: Creation of Entity of Joint Competence for the entire regional infrastructure

This option extends the scale of the regional organization through the establishment of an entity that shall be in charge to manage all regional infrastructure of temporary storage (TSs), long distance transportation and the facilities of final treatment and disposal:

- a. An Entity of Joint Competence is created based on an overall IMA of municipalities in Shkodër – Lezhë WMZ.
- b. The EJC organized at the format of a JSC is created for the management of regional infrastructure including the landfill of Bushat and TSs of Malësia Madhe and Kurbin (including other infrastructure that shall be developed in the latter phases of Masterplan implementation) and the long distance transportation of MSW to the landfill.

From the institutional point of view, the format of this option and generic allocation of responsibilities will look like as in the following scheme:

In all cases and for both types of facilities operation might be public or private in various forms. Responsibilities of the parties also will remain more or less similar to the current situation.

The Supervisory Board shall be established to regulate the relationship between municipalities and monitor performance and the standard of service delivery.

According to this option, the allocation of responsibilities between the company and the municipalities will have the form as schematically presented in the following.

The responsibilities of the JSC might be extended with other tasks such as might be:

- Rehabilitation / closure of existing dumpsites;
- Management of other facilities such as MBT ect.
- Commercial operations with recycled products that are processed in facilities managed by this entity;
- Awareness and education;
- Public Relations

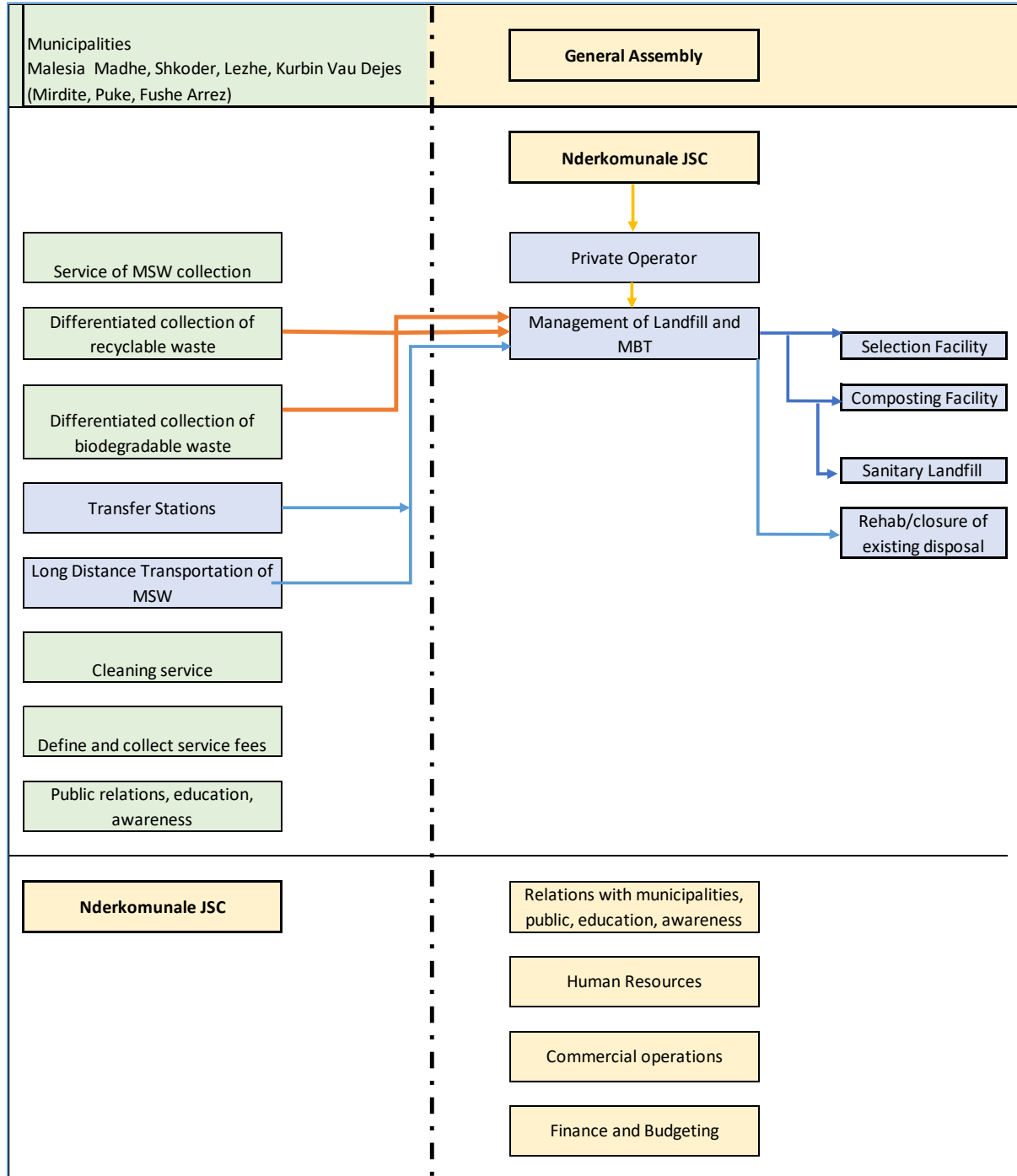
This option creates flexibility for other municipalities to use Transfer Stations as it could be appropriate. (Example: Municipality might use the TS of Malësia Madhe so MSW of some of the Administrative units (AU) of Shkodër municipality might take waste to the TS rather than directly to Bushat; this would require revision of collection itineraries for the benefiting AUs. The same could be the case for Lezhë as well if the TS of Kurbin will ever become operational.

Under Option 2, the scope of activities of this company will be limited to the management and / or operation of the infrastructure network for the collection and hauling operations from the Transfer Stations to the Waste Treatment Facility which implies the Material Recovery Facility (MRF for sorting and selection of recyclable waste streams) and Mechanical and Biological Treatment facility (MBT composting of bio waste), closure of the existing dumpsites, the final hauling of remaining MSW to the landfill, and last the establishment and the operation of the landfill while the collection and transportation of MSW to the network

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

of Transfer Stations shall be the activities of municipalities, which they can chose any of the forms legally available for the management of these aspects of the service.

Figure 19: Responsibilities, organizational structure and nature of activities of JSC according to Option 2 of scenario 1



7.3.3. Comparative analysis for the proposed Options of Scenario 2

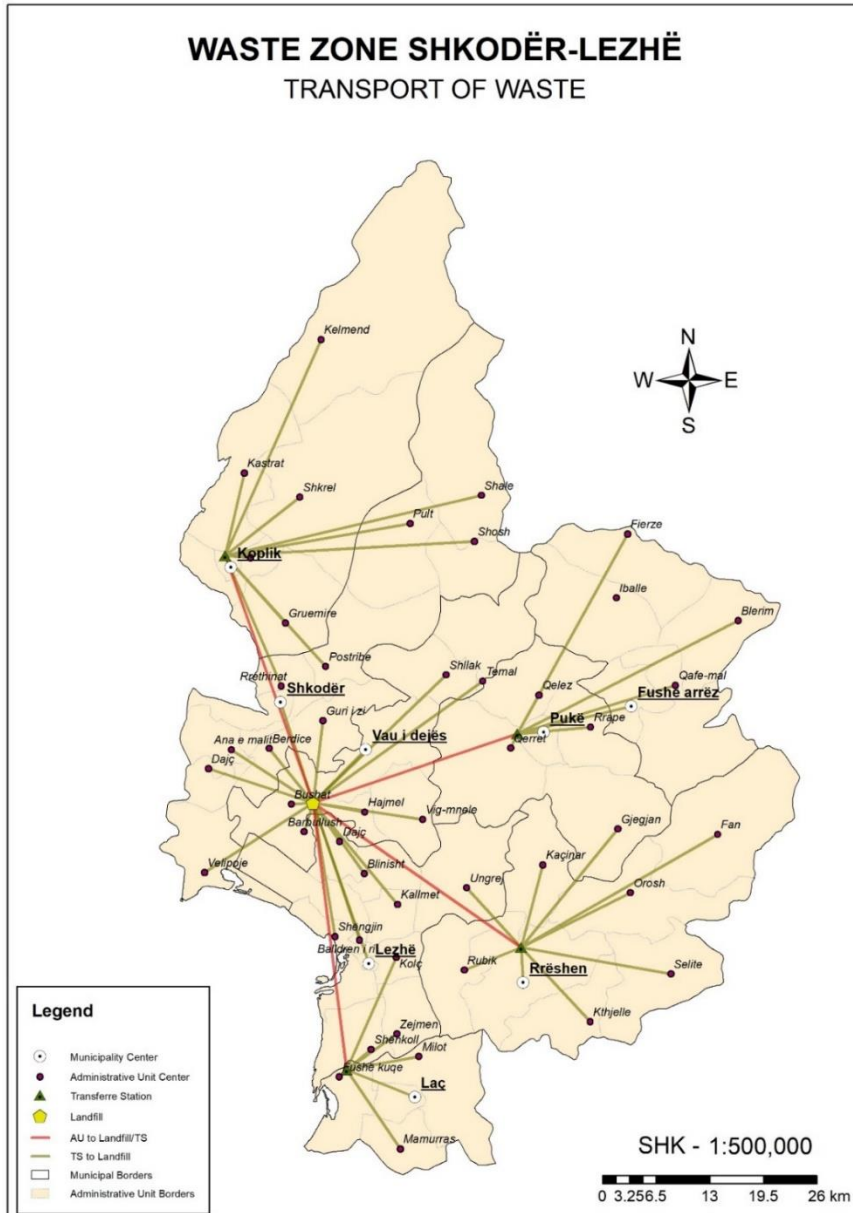
Following the presentation of this document, a consultation period is necessary to follow with the submission of hard copies (including also e-copies) of the Plan to all mayors of municipalities of the designated area for review and consent from their part. Having a standing reply from all beneficiary municipalities, the Consultant would be in the position to proceed with further detail's development as necessary for the selected option, where the best applicable solutions will be analyzed in more details.

Table 34: Comparison of proposed institutional formats of JSC as of Options of Scenario 2

Service / operation	Op1	Op2
Juridical status	JSC	JSC
Collection of MSW	-	-
Transport and transfer	-	X
Mechanical treatment	X	X
Biological	X	X
Thermal treatment (with and without energy recovery)	-	-
Control and Rehab of existing DS	-	X
Hauling of MSW to landfill	X	X
Treatment to landfill	X	X
Closer of existing DS	-	X
Calculate and collect collection service fees	-	-
Calculate and collect gate fees	-	X

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Figure 20: Collection and transportation service system of MSW carried out by municipalities



For the purpose of further development of institutional structure relevant to management of the INWTF, should the mayors would expressed that a newly established Joint Stock Company that shall be responsible for the management of the INWTF to include the service delivery of MSW reception at Transfer Stations, hauling of these waste to the WTF and TS in Shkodër-Lezhë and transportation for final treatment to the landfill of Bushat, would be the most appropriate format for a full regional scale of an inter-municipal set – up of MSW management in the Shkodër - Lezhë WMZ.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

At this stage, given the opinions of the Mayors, the development of the waste management sector at national level, but also at the level of the municipalities and the region / qark that are the subject of this Plan, taking into account the human and financial capacities of the municipalities as well as the Central Government, we would recommend the most appropriate institutional option, at least to start with the early stages of the Plan, with either options of Scenario 1 towards achieving the recommend Option 2 of 2nd Scenario, as the most appropriate one for the management of INWTF in the Shkodër-Lezhë WMZ..

Key Note 5: Recommended Structure of the management entity for MSW

The recommended structure of the institutional framework for the management of Regional Scheme in Shkodër-Lezhë WMZ is composed of three main levels:

1. Decision making level – municipal councils that have signed the inter-municipal agreement;
2. The coordination and monitoring level – Steering – Monitoring Committee which is composed of Mayors of municipalities in the inter-municipal agreement and representatives of the central government institutions; and
3. Management level – the Entity of Joint Competence, otherwise e Joint – Stock Company that is established based on an Inter-Municipal Agreement;

The Joint Stock Company has proved to be the most agreeable solution relevant to the institutional structure for the management of the INWTF. The role and responsibilities and the scope of work of the JSC shall be connected to the investment, construction and management of the transportation and treatment of MSW through the operation of Regional Scheme that shall be established in the WMZ of Shkodër-Lezhë to include:

- Four Transfer Stations.
- One Waste Treatment Facility (Vau Dejës) to include a MFR, MBT and the landfill.
- Role of JSC might be extended to include temporary operation and closure of existing disposal sites, until the regional infrastructure is in place and fully operational

8. Legal Framework for Establishment of an Entity of Joint Competence for the Management of Regional Scheme of Shkodër – Lezhë WMZ

Optional instruments for the service delivery relevant to the management of MSW in the jurisdiction of a WMZ are related to four specific laws to include:

- Law 139/2015 “on local self-government”;
- Law 8094/21.03.1996 “On the public disposal of waste”;
- Law 7582/1992 “On the state enterprises”
- Law 9901/2008 “On the traders and commercial companies”

Under the conditions of the regional / zonal MSW management, point of view, otherwise the administration of the waste treatment facilities in the Waste Area, as for the legislation as above indicated, four effective

types of entities of joint competence for the management of waste treatment and transportation in the area could be enabled.

In this case, we would clarify that with the “entity of joint competence” we would understand an organization that is established by two or more municipalities under a cooperation agreement for the management of waste treatment facilities therefore the treatment and transportation of MSW of regional / zonal interest”. The four effective types of entities could be as in the following. A fifth one is a possible form of service delivery which comes as a result of decision-making pursuant to the selection among one of the four following types of entities:

1. A joint stock company, which shares are divided among shareholder municipalities, that is established based on the provisions of the law “On the traders and commercial companies;
2. A publicly owned company, which is administered in accordance with the dispositions of the law “On the state enterprises” or a new law on “Public companies for public services”;
3. A limited liability company which is established based on the provisions of the law “On traders and commercial companies;
4. A for - non – profit organization which is established based on the law of foundations and non-profit organizations.
5. A private operator contracted out under a:
 - a. Service contract;
 - b. Management contract;
 - c. A concession or other forms of public – private partnership involvement.

All forms are subject of a prior analysis and of an agreement of municipalities that decide to adhere in an entity of joint stock competence. Either of the forms of the entity would be subject of and fulfil the following:

- Approval of the municipalities that have joined in an approved agreement;
- Has received the consensus of relevant central government authorities;
- Fits better to the chosen technical options and technologies for the management of MSW in the WMZ;
- Better fulfils the principles of affordability, proximity and other principles that stands to the foundations of the Plan for the Management of MSW in the Waste Area;
- Better complements with national and regional policies, legal requirements and matches with the Waste Framework Directive of EU.

A solid analysis based on the following list of criteria is carried out to justify and support the selection of the type of the EJC that shall be established for the management of the INWTF in the WMZ.

The list of criteria is introduced as in the following:

- The appropriate legal bases;
- Financial and administrative self-sufficiency; A self-sufficient entity that operates independently from financial and administrative point of view
- Appropriate to approach financial markets;

- Appropriate to cooperate with private sector;
- Other experiences in the country,
- Ensures efficiency and business-oriented management,
- It is flexible to combine and/or make use of various financial resources

When above options are compared versus the analytical criteria, we find out that:

1. The EJC at the format of a shareholding company has a consolidated legal bases, a special section of the law on traders and commercial companies is dedicated to shareholding companies with state owned capital; it represents an instrument that appropriately may harmonize the interest of more than one municipality that operate under an inter-municipal agreement with a clear allocation of responsibilities and financial burden based on a population allocation of the shares that belong to each member.

In addition, we have already some country experiences in the sector, to include the case of KRWM Shareholding Company (Korca Region), Bajkaj Land Shareholding Company and many other similar companies that are effective for the management of similar services such as water supply and sewerage function of municipalities.

As an independent and self-sufficient legal entity, a shareholding company might easily and be more trustworthy to financial markets and the private sector.

It is important also to mention that as a publicly owned entity, a shareholding company will fully rely to the provision of the law on public procurement on any activity that requires purchasing, construction and involvement of private sector in any of legally recognized forms of organization.

2. The EJC at the format of a limited liability company is another option that also is based on a consolidated legal basis. However, the authority of the shareholders is limited to the level of their liabilities therefore an allocation of shares as per the population of municipalities would be difficult to achieve. On the other side this type of companies is rather designated for profit making therefore it better suits to the profit oriented private businesses rather than to the municipalities for the delivery of a very sensitive public service.

In addition, we do not recognize any experience in the country using this format of organization for the delivery of public service that we could refer as an example and support for establishing our case. On the other side, being a fully independent legal entity, and company of limited liability has easy access to private sector cooperation and financial markets.

3. The EJC at the format of a “state owned company” is an option which establishment is based on the law “on state owned companies”. The legal grounds for this type of entity are very weak; the organic law is very old, and it does not serve to the purpose for rendering public services. The companies have profit profile, which does not make it appropriate for our case.

A new law on public owned companies for public services is expected to be designed and effectuated. Currently does not exist any plan or timeline to show when such law will come to effect, therefore with the current legal bases, establishment of a state / public owned company with the purpose of managing the INWTF under this project would be difficult unless impossible.

4. Establishing an EJC at the format of a non-profit organization is a potential form for managing the INWTF in the WMZ. For-non-profit organizations are established based on specific legal grounds, sometimes even for delivery of public services. However, the scale and complication of activities that

are required for the management of the INWTF in the WMZ go beyond the nature of the activity of a non-for-profit organization.

On the other side, a non-for-profit organization being as such in the core of its activity, would find difficult to harmonies the interests of all municipalities, it is not very trustworthy to financial markets and cooperate with the private sector.

- The service provider might be a private operator that could be contracted out from an authorized entity to render possible the management of the INWTF in the jurisdiction of a WMZ. However, to ensure a fair and transparent involvement of private sector, we would need an entity with the authority to do so. According to our scheme of organization, this authority shall be the EJC which could stand at any of the above forms and that shall be legalized and authorized from all municipalities based on the inter-municipal agreement that they will approve and sign. Therefore, the involvement of private sector shall be latter analyzed, one the EJC format is specified and agreed from the municipalities under their inter-municipal agreement.

The following table summarizes the results of our analysis with regard the potential EJC format for the management of INWTF in a WMZ.

Table 35: Summary of the assessment of institutional options of the legal entity of joint competence for management of INWTF in a WMZ

Assessment Criteria	JSC	LTDC	POPSC	FNPO
Appropriate legal bases	++	+	-	+
Independent financial and administrative operation	++	++	-	+
Ownership relationships	++	+	-	-
Access to financial markets	++	+	-	-
Access to private sector	++	++	-	-
Existing experiences in the country	+	-	-	-
Efficiency	++	++	-	-

Based on a general assessment as in the table above, the most appropriate form for the organization of the entity of joint competence (legal entity) may be a public owned "joint stock company", which is recommended in the framework of the implementation of the regional scheme in Shkodër-Lezhë WMZ.

Choosing the legal form of the joint stock company is facilitated by several factors which, compared to other forms, are more advanced:

- There is an existing appropriate legal basis;
- Operates with an independent budget and administration;
- It is a proper subject to cooperate and access the private sector;
- There are other experiences that are under development in this sector in the country;
- It better harmonizes the interests of the municipalities based on the shares they own

- The subject is a structure whose management is oriented towards the way in which a business is managed so that it can provide creativity, effectiveness and customer-oriented service;
- Offers flexibility to access various financial sources, including private entities, commercial banks, international financial institutions for grant or grant-loan combinations that can be provided by the Central Government or partly by municipalities that have create this entity;

8.1. Roadmap for the Establishment of the Inter-Municipal Joint Stock Company

In all cases, regardless of the type of JSC, the roadmap for the establishment of the entity as proposed in this document will go through the same legal path which includes but is not limited to the steps as expressed in the paragraph below.

1. Discuss and obtain preliminary agreement of mayors of designated municipalities;
2. Drafting an inter-municipal agreement, discussion and approval by the councils of the municipalities that will form this regional company (case of KRWM – Korce), or by the regional council when the shares of this company will be 100% owned by a single owner, in this case the regional council (case of Bajkaj land Sha);
3. Establishment of company headquarters,
4. Drafting and approving the company's founding act;
5. Determination of initial capital;
6. Drafting and approving the statute of the company;
7. Registration of the company at the NBC (QKB)
8. Company registration in tax authorities;
9. First General Meeting / General Meeting of Partners, Name of Administrative Council;
10. The first meeting of the Administrative Council, the proposal of the Executive Director
11. Drafting and approving the internal regulation of the organization and functioning of the company.
12. Applying and obtaining all licenses and permits required by environmental and fiscal legislation.

After carrying out the steps 1 to 12 above, to put this company into operation, comprehensive financial and capacity building support will be required both at the moment of creation and during the implementation of the project. These measures should include:

1. Drafting the organizational structure and personnel;
2. Drafting the initial budget and the business plan;
3. Development of feasibility study and assessment of initial capital investment needs;
4. Drafting projects for construction of waste infrastructure;
5. Drafting of environmental impact assessment of waste infrastructure;
6. Calculation of costs and operational plan;
7. Support with projects, investments and operational system of existing landfills;

8. Capital investment support for the operational system and waste management infrastructure;
9. Support the establishment of a differentiated waste collection system.
10. Support in the construction of waste treatment infrastructure, including compost selection for recycling and landfill operation;
11. Support for the operation of waste treatment infrastructure, including compost selection for recycling and landfill operation;
12. Supporting awareness, education and public relations.

8.2. Basic Financial Relation between JSC and Member Municipalities

The financial relations between the JSC and the member municipalities and the collection of waste management fees will be organized according to the following principles and mechanisms:

- The total contribution of the members should be sufficient to cover the entire cost of the system.
- Equity shares will be issued to all municipalities in return for initial payments (equity payments) that serve to cover the operational costs during the transitional phase.
- Members shall assign a specific expense item in their annual budget and make their regular payments to the JSC in quarterly advance payments.
- Members shall pay a unified unit price per ton of waste.
- All members shall pay according to the amount of waste in tons collected and as received at the Transfer Station gates.

The members are responsible for the collection of waste management fees from the households, businesses and industries. The regular payments to the JSC does not reflect the calculated amount of waste fees to be levied by each municipality. If the collection rate is below 100%, they will have to cover the difference out of their common budget, unless additional funding (e.g. from the central government or out of the generated cash surplus) is available.

9. Estimation of regional scale involvement of private sector

Earlier analysis along with the opinion as received from municipalities has indicated that the service delivery responsibility of the EJC shall be limited to the management of the INWTF to include construction and operation of TS and the WTF and long-distance transportation; while collection of MSW and transportation to the TS shall remain a separate responsibility of every single municipality.

While selection of the institutional instruments for the management of the MSW collection aspect of the service, our purpose under this report focuses on analyzing and recommending the best possible institutional instrument that shall be responsible the other aspect of the service delivery, as already specified. This will include the long distance transportation of MSW through the network of Transfer Stations and the treatment of MSW with the purpose of reuse and recovery through the regional / zonal Waste Treatment Facility. Therefore, any public or private institutional form will have in its scope of work the said purpose.

While the above analysis has focus on the identification of the institutional structure, the format of the entity of joint competence and identification and assessment of potential public vehicles to provide the said aspects of service delivery, the following paragraphs will focus on the identification of potential private instruments that could be selected for the same purpose.

Based on the above analysis and conclusions, we have already recommended that a JST shall be established for the management of INWTF, it shall be the public authority to propose and implement the agreed institutional format for the management of service delivery, which as earlier specified, would include:

- Transfer station operation/long distance transportation/landfill; and
- Waste treatment, reuse and recovery of recyclable and bio-composting material

Potential institutional forms for service delivery would include at least the following:

- The JSC which shall be newly established based on the inter-municipal agreement of municipalities in the region with a dedicated operational structure;
- Any public-private partnership format including concessions;
- Service contract with a private or public operator
- Afermage / Leasing contract;
- Any other form.

Main legal framework that specifies potential use of various institutional forms for service delivery include:

- Law 125/2013 “On the concessions and public private partnership”, as amended;
- Law 9901/2008 “On traders and commercial companies”, as amended.

According to the law 125/2013, municipalities may choose among various forms formats of private public partnership for the delivery of the service.

Public Private Partnership (PPP)

According to the law 125/2013 “On concessions and public private partnership”, the PPP is defined as a long-term contractual arrangement between a public contracting authority and one or more than one private operator.

Under this agreement, the private operator would take over the responsibility and share the risks to offer the required public service that falls within the competence of the said public authority by:

- Providing necessary capital investments to design, build and operate the infrastructure or/and facility which would ensure for the delivery of required public service.

In order to achieve as the above-specified task, the private operator would take over different levels of financial risks relevant to financing, construction, operation and management of the infrastructure/facility.

In many cases risks are fully covered by setting up and collect a user’s tariff or other revenue generating instruments combined with regular fixed annual amounts payable to the private operator through a long-term commitment from the public budget of the public contracting authority.

A PPP might be realized with one of the following forms:

- A concession for public works;

- A concession for public services,
- A contract for public works;
- A contract for public services.

Concessions

The concession might be of two forms:

- A concession for public works,
- A concession for delivery of public services; or
- A mixed form of the first two “for public works and service delivery”.

In both cases, a concession is delineated as “a written agreement/contract of financial interest between the contracting authority and one or more economic operators, which scope of work is the construction of public works / delivery of public services. In the meanwhile the award for works or services to be delivered are composed from the right to exploitation and generation of revenues from the works/services that are subject of the contract and/or the payment from the contracting authority”.

In this case, the right to use and generate revenues from the works/services which are transferred to the concessioner, contains also a part of the operational risk that is related to the scope of work as defined in the contract.

The level of risk undertaken from the concessioner depends on the amount payable/financial support from the contracting authority, and the higher the financial support from the contracting authority the lower the risk undertaken from the concessioner.

The need for initial capital investments that are required for the establishment of the INWTF and generation of revenues to cover capital and operational costs increases the operational risk unless the contracting authority will take over the responsibility to provide substantial financial support for the concessioner to reduce the operational risk and ensure a sustainable service delivery.

The ratio between the risk of the concessioner and financial support from the public contracting authority, makes the concession as a vulnerable institutional form for the establishment of the INWTF and delivery of designated services.

Among many concession forms those more popular that would fit to the purpose of this type of service would include:

Build – Operate – Transfer (BOT)

The private operator constructs, operates, maintains a given infrastructure or facility over a fixed time (usually not longer than 35 years). The operator can charge user fees, according to the bids or as negotiated and incorporated in the contract to enable the private operator to recover its investment, operating and maintenance expenses in the project. To share the operational risk, a concession charge is paid from the contracting public authority. At the termination of the concession period, the investor transfers the facility to the public agency, which shall not exceed 35 years according to the law that regulates this activity in Albania.

Build-Own-and-Operate (BOO)

The private investor is authorized to finance, construct, own, operate and maintain an infrastructure or the facility, in which he can recover its total costs plus a reasonable return by collecting user tariffs, rent incomes or other charges from facility users. The investor may assign its operation and maintenance to a facility operator.

Build-Transfer-and-Operation (BTO)

A public agency contracts out a private operator/investor to build an infrastructure or facility on the bases of a turn-key contract. Once the facility is commissioned satisfactory, the title is transferred to the implementing agency. The private entity, however, could be contracted out to operate the facility on behalf of the implementing public agency under an agreement.

Key Note 6: Application of PPP formats

It is to be mentioned since the beginning that any type of PPP format shall be a profit-based activity, a profit that would be created through combining user / service tariffs and payments from the public contracting authority.

Other characteristic of concessions and other PPP formats is that the private operators/investors shall take over the responsibility of providing initial capital investments either for building new or rehabilitating existing infrastructure or facilities; that in this aspect, when capacities of municipalities for financing of the facilities are missing, this could make entering into a concession contract somehow attractive to municipalities.

Depending on the format of the PPP, in most of the cases the assets of the infrastructure and / facilities that shall be used for rendering the service will remain public owned despite the format of Build – Own – Operate version of the concession.

Concession or any other format of PPP are contract-based agreements, including the general definitions and specific definition, usually to remain unchanged or with very little room for changes, therefore, the ability to adopt this kind of contracts to the changing conditions and future demands of the integrated waste management of MSW is rather limited.

Due to limited room for changing a concession or a PPP contract, though the concession is by nature a long-term binding agreement, the ability of the entity to adopt and insist on compliance with performance and other standards over the long term might result problematic, as it must be reinforced continuously along with changing or adopting specific conditions of the concession agreement.

Because the concession agreement it is by nature a long term binding contract, the concessionaire shall be binding to properly maintain the equipment and facilities so that a standard service delivery and cost efficiency is maintained along the duration of the contract, nevertheless we haven't witnessed yet a case in Albania when the assets of the infrastructure and facilities are transferred at the completion of concession time to the public authorities.

A concessionaire or a private operator that is engaged in a PPP contract shall be subject of all taxes applicable in the country to include, corporate tax at 15%, VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories shall be part of the operational cost apart from depreciation expenses as part of the capital costs shall be charged to the user's tariff and fix payment from the budget of public authority.

Afermage / Leasing Contracts

Leasing arrangements are similar to concessions but generally concluded for shorter periods, very often to the limits of up to five years. During the lease period, the lessee, otherwise the private operator assumes full financial responsibility and bear the full commercial risk for operating the assets. Since the lessee is

under the obligation to restore assets to the public contracting authority at the end of the lease period in the same state as at the beginning, the lessee is responsible for rehabilitation of the installations and equipment as specified in the lease agreement.

The lease arrangement may only be used to provide management know-how and operational skills to increase the capacities of public sector and improve efficiency of operating state assets. Under a lease arrangement, a private operator would lease the facilities of the EJC for the management of MSW, which may involve one or several of the EJC activities, such as the management of Transfer Stations or/and the management of long-distance hauling of MSW to the landfill, the MRF or composting activities. The lessee would operate the facilities according to the terms set out in the lease agreement, notably a lease payment and an obligation to share in the cost of maintenance and repair of the assets in accordance with an agreed schedule.

A lease is normally intended as a temporary measure to ensure an acceptable level of efficiency and profitability of the enterprise. The lease arrangement may also serve the purpose of demonstrating the EJC's profitability, in which case a better price may be commanded from a strategic investor at a later stage. At the end of the lease period, the EJC and member municipalities may decide whether to retain the assets or to divest itself of all assets and operations of solid waste management. In fact, leasing may be intended to open the possibility for the strategic investor to buy either minority or majority shares of the leased property at some later point.

Key Note 7: Application of other private formats

A leasing contract is similar to a concession with regard to profitability of its activity, despite the fact that it is much shorter in time terms. The lessee takes over all the risks that associate the activity unless it is differently defined in the leasing contract.

Under leasing contract, capital investments are previously or initially provided by the public contracting authority.

Under a leasing contract given that the lessee takes full responsibility and commercial risk over the activity, the private operator will have much more room and ability to adapt these to the changing conditions and responding to future demands however for a short time period, therefore the biggest benefit out of this type of contract would be in the improvement of know-how and capacities.

Due to limited time terms under a leasing contract a private operator, will have limited ability to adopt and insist on compliance with performance and other standards over the long term.

The lessee is under the obligation to restore assets to the public contracting authority at the end of the lease period in the same state as at the beginning, the lessee is responsible for rehabilitation of the installations and equipment as specified in the lease agreement, therefore ownership over assets will remain public before and after the leasing contract.

A lessee or a private operator that is engaged in a leasing contract shall be subject of all taxes applicable in the country to include, corporate tax at 15%, VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories shall be part of the operational cost apart from depreciation expenses as part of the capital costs shall be charged to the user's tariff and fixed payment from the budget of public authority.

Management contract

Comparably to an affermage/lease arrangement, a management contract for delivery of the required public services may result in the transfer of both technical and managerial know-how, though at a limited time extension. Generally, a management contract is very specific concerning the contractor's obligations, particularly regarding the progressive improvement of the entity financial performance in terms of cost

reduction and increase of revenues.

Under a management contract, the contractor, preferably a reputable international MSW management company, assumes no commercial risk. The private operator would only assume responsibility to manage the assets of EJC for a fixed price and for a limited period of up to 5 years. In fact, the private operator will be given full management control without own financial exposure and be compensated regardless of his performance or the organisation's profitability. If incentive payments are agreed, these may forfeit if the level of performance is not met. Management contracts are usually very specific concerning monthly fee invoicing and bill collection.

The management contract's disadvantages include a higher short-term burden for the budgets of municipalities or the budget of the EJC in the form of a management fee, which may only be justified if operational profitability would substantially increase. Advantages of the management contract include provision of management and technical know-how, without the government giving up ownership, protection of the labour force or full operational control.

At the end of the management contract, the contractor may be given the option of taking an equity participation or buying shares, both of which may be a first step in the transfer of ownership to the contractor in a context of private-public partnership. The management contract may, therefore, be a solution for the EJC for the first five years following the donor funding period, with the condition that total cost-based tariffs and effective billing and collection mechanisms are being introduced.

Service contract

This is the most typical form used nowadays by many municipalities across the country, although this is not the case in our project area. With these contracts, cities mainly provide the cleaning service and waste collection and disposal to dumpsites.

These contracts are bound after the implementation of a procurement procedure based on a fixed annual amount budgeted and as established by the relevant municipal council. The contract is concluded for a period of not more than 5 years, as stipulated in the article 20 of Law no. 9663, dated 18.12.2006, "On public removal of waste".

The contract is a common model with the scope of the service limited only to cleaning and waste removal. If additional scope is added, such as separate collection of waste for recycling, the scope of the contract should be changed as well. An additional scope would conflict with the original scope of cleaning and waste removal of the contract. The conflict stems from the collision of two different types of service, on the one hand the Municipality seeks to source out the cleaning services and waste disposal and, on the other hand the same contract should define the mechanism of selection and selling recyclables, therefore injecting investment and generating revenues from the commercial operation. This conflict of contract scopes of work will make contractual relationship very difficult and practically not implementable.

On the other hand, the law for integrated waste management requires "integration" of all aspects of the scheme including the management of INWTF and this type of contract would not be very appropriate to accommodate all requirements to settle an integrated system for the management of MSW.

Key Note 8: Alternative private formats

All two types of contracts to include management and service contract have similarities in the nature of activity and relevant to the market behavior; they are both profit based activities, a profit that is made based on fix payments the private operator connected in either management of service contract, receives from the public contracting authority.

In both cases ownership of assets, i.e., infrastructure and facilities that serve to the service delivery remain state owned.

Under these types of contracts, capital investments are provided from the public contracting authority. Given the short term nature of contracts, private operators do not take very careful engagement towards maintenance of assets, although they are given back to the public contracting authority at the closing of either management or service contract.

Under a management or service contract, given that the commercial risk fully remains with the public contracting authority, the ability to adapt to the changing conditions and responding to future demands remains very limited.

Regardless the limited time terms a management or service contract is usually based on a set of performance indicators that the contractor shall meet during the execution of the contract, so insist on compliance with performance and other standards over the terms of the contract would be the major benefit from these type of engagements, however due to the short time term of implementation the contractor, will have limited ability to adopt to required changes as they might come for the establishment of an integrated management system of MSW.

A private operator that is engaged in a management/ service contract shall be subject of all taxes applicable in the country to include, corporate tax at 15%, VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories shall be part of the operational cost, despite depreciation expenses as part of the capital costs which shall remain with the public contracting authority.

Public Entity of Joint Competence

As it is above-mentioned earlier in this document, an EJC might be established at the format of a joint stock company with state owned capital; it represents an instrument that appropriately may harmonize the interest of more than one municipality that operate under an inter-municipal agreement with a clear allocation of responsibilities and financial burden based on a population allocation of the shares that belong to each member.

As an independent and self-sufficient legal entity, a joint stock company might not necessarily be profit oriented; any surplus that it creates, might be easily used to provide additional capital investments to further extend and improve the service delivery.

It is important also to mention that as a publicly owned entity, a joint stock company will fully rely to the provision of the law on public procurement on any activity that requires purchasing, construction and involvement of private sector in any of legally recognized forms of organization; while the assets are created and owned by the company on behalf of municipalities that have established.

Under this option the JSC shall be structured in a way that its scope of work shall entail all activities related to collection, transportation and treatment of MSW covering all territory of the WMZ of Shkodër-Lezhë, meaning that municipalities will rely on the activity of this company, including management and operation of the INWTF. However, its scope of work might be adopted and extended as the nature and scope of services might change relevant to specific requirement of integrated management of MSW.

Regarding capital investment needs, this type of entity would rely very much on funding from financial organizations, part of which would be grant and partly a loan; or it might access the financial market for commercial loans, which in this case would not be the most appropriate solution, given that it might increase the costs beyond the affordability of citizens to pay for the public service delivery.

Key Note 9: Public owned entities versus private ones

A public owned JSC might not necessarily be a profit-oriented entity, given that a surplus that would be created could be reinvested to extend the service and the quality of the service.

All the time, the assets of this type of entity are created as public and remain publicly owned, even when the entity decides to involve private operators to deliver various aspects of the service or manage facilities.

This entity can adopt and changing conditions to respond to future demands of the integrated waste management of MSW, given that it depends on the ability to raise capital investments and reformat the scope of work and the statute of the organization.

The ability of the entity to adopt and insist on compliance with performance and other standards will rely on the capacities, adoption of business-like management patterns and interference of political structures. Ability to adopt and insist on compliance with performance will rather low as compared to any private operator.

The ability of the entity to maintain equipment and infrastructure would be rather low unless the entity will adoption business like management patterns.

A public entity, with no profit profile avoid to pay corporate tax at 15%, though it will be subject of VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories will be less a financial burden over the costs while depreciation expenses as part of the capital costs shall be registered with the liabilities of the company.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Annex 1: Implementation plan for the operationalization of the Shkodër – Lezhë Regional Scheme

Project Activities	Responsibilities - Participation				Phase 1												Phase 2				Phase 3																			
	BIF Facilitate	MIE & MTE	Donor	Municipalities	2020												2021				2022				2023				2027				2032							
					Month												Quarter				Quarter				Quarter				Year				Year							
					1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5			
1. Pphase 1																																								
0.1 Open discussion on alternative options for the regional scheme with stakeholders	x	x		x																																				
0.2 Reach a wide agreement among mayors of municipalities on the desired option and action plan	x	x		x																																				
0.3 Technical assistance for revision, prepare and submit a new model of IMA and SC	x			x																																				
0.4 Shkoder, Lezhe municipalities consider signing of new IMA and SC with Vau Djes and Nderkomunale																																								
0.5 Kurbin Malesia e Madhe municipalities consider signing of new IMA and SC with Vau Djes and Nderkomunale	x			x																																				
0.6 Kurbin and Malesia Madhe budget and carry transportation and disposal of MSW to Bushat Landfill	x			x																																				
0.7 MM and KU approve and launching the implementation of the LWMP and Public Awareness	x	x		x																																				
0.8 Municipalities launch - start application for the reduction of MSW as part of their LWMP implementation	x	x		x																																				
09. MM and KU investigate for the identification of proper and clean sites to dedicate for construction of TS	x	x		x																																				
0.9 Funding is planed for the design and closing of DS in Kurbin and Malesia e Madhe	x	x		x																																				
0.10 Closing of Disposal Sites in Kurbin and Malesia Madhe	x	x	x	x																																				
2 Phase 2																																								
1.1 Operation at the Landfill of Bushat is upgraded	x			x																																				
1.2 Landfill of Bushat is upgraded with the construction of MBT	x			x																																				
1.3 TS in Puka - Fushe Arrez is constructed and actual DSs are closed	x	x		x																																				
1.4 Puka and Fushe Arrez are become part of the regional scheme	x	x		x																																				
3. Phase 3				x																																				
1.1 Landfill of Mirdita is closed and a new TS is constructed in Mirdita	x	x		x																																				
1.2 Mirdita becomes part of the regional scheme	x	x		x																																				
1.3 Separation at source is applicable in most of the high density residential and comercial areas of the Zone	x	x		x																																				
1.4l Regional Scheme of Shkoder - Lezhe WMZ is fully applicable	x	x		x																																				

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

Annex 2: Summarized graphical presentation of steps for the construction of TS in Malësia Madhe and Kurbin



Annex 3: Summary of Key Notes Recommendations

Key Note 10: Tariff Affordability

An effective institutional and organizational concept for the regional scheme should take into consideration the Masterplan assigned responsibilities; said that a Feasibility Study and a detailed conceptual design is required based on field measurements of waste amount and composition involving the whole WMZ, to either confirm or adjust accordingly Masterplan assumptions and forecast.

Assessing the affordability of the tariffs as forecasted by the Masterplan would require a detailed financial and socio-economic analysis that are usually part of a comprehensive Feasibility Study. Based on an earlier assessment of URI carried out in the framework of the “Financial and Economic Analysis in the Waste Management Zone of Kukës²⁰”, for almost the same system as proposed from the Masterplan, it is calculated that the affordability level for a full system tariff is at the limits for the low income group of the households. The following table indicates respective figures.

Given the similarities between most parts of the Region Shkodër – Lezhë with Kukës Region, tariffs at the level of 61 EUR/HH/year would rather high and very probably beyond the affordability level for most of the population living in the Shkodër – Lezhë Area.

Key Note 11: Recommended Regional Structure of the Institutional Framework

With regard waste management, a Regional Scheme for the Integrated Management of MSW, would imply an organization that shall be assigned with the administration of the infrastructure network or the service delivery that involves at least two or more municipalities or facilities that are established for to serve to specified municipalities.

Given the definitions of the Master Plan, the network for integrated management of MSW in the Waste Area of Shkodër-Lezhë is composed of four TSs one Mechanical and Biological Treatment Facility (BMT) and the Landfill in Bushat. The initial positioning of some the aforementioned TSs are located in the current places of existing dumpsites in the said municipalities; however further and somehow rather long time term investigation is required to conclude with final positioning of some of the facilities.

The service deliver at regional scheme may imply operation of Transfer Stations, transport of MSW from TSs to the main facility of landfill and other facilities such as might be BMT, and any other treatment facilities which processes aim reuse and reduction of waste, and the transportation of remaining MSW for final disposal to the landfill of Bushat.

Institutional framework for the integrated management of MSW is conditional to the legal framework as of the law on local self-government, and other laws as above specified.

The institutional framework becomes binding to either bilateral municipal agreements or an inter-municipal agreement (the agreement) between municipalities that are binding to become members of an “entity of joint interest” for the integrated management of MSW in the WMZ of Shkodër-Lezhë.

The agreement is also binding to the path and the process for the approval of the Feasibility study and the Environment and Social Impact Assessment of the Regional Scheme for the Integrated Management of MSW in the WMZ of Shkodër-Lezhë that includes:

²⁰ TA for Integrated Solid Waste Management System for two Selected Municipalities of Albania - EuropeAid/138181/DH/SER/AL

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)

4. Approval of municipalities;
5. Submission for the procedural processing to the Agency for Territorial Development;
6. Submission for approval from the National Territorial Council

The agreement shall take a two-step approval process:

- An initial approval of all mayors of member municipalities:
- The approval of the agreement by municipal councils of respective municipalities based on the grounds as set forth initially from the mayor's engagement to sign it.
- In order to address those risks of "High" impact, despite the scale of development, it is imperative that the project continuous to intensively communicate with all the mayors in the area, so that their support is ensured and strengthened.

Key Note 12: Cost demand for Malësia e Madhe and Kurbin to comply with the scenario

In order that this scenario is agreed to become operational, both municipalities have to adopt the collection and transport the new system as proposed in the new Local Waste Management Plan which leads to slight increase of costs for MalësiaMadhe and moderate reduction of costs for Kurbin to cover additional costs required investments, increased expenses of transportation and payment of the gate fee for disposal of waste to the landfill of Bushat. This initial phase of the regional scheme might start the implementation in 2020 or at the latest in 2021. Implementation of Scenario 0 for the municipality of Kurbin would require revision of the service contracts of the municipality with the Service Providers.

On the other side, the central government should get committed and involved to allocate necessary budge for the closing of existing disposal sites and perhaps BtF could also help to convert these places as designated areas for the disposal of inert waste.

Key Note 13: Inter-municipal agreement

At the core of all legal and institutional transformations at a regional scale stands the achievement of an inter-municipal agreement of either bilateral or zonal of two municipalities or more municipalities within the jurisdiction of the WMZ; this is indispensable for the municipalities Malësia Madhe and Kurbin so that they join Shkodër, Lezhë and Vau Dejës to dispose their waste in Bushat Landfill. This particularity is the only necessity and indispensable condition that enables application of the most advanced available options for the organizational structure of public administration, including participation of the private sector for the integrated management of MSW

Key Note 14: Public Procurement

In practical terms, involvement of a private operator at any case or development stage of the project would require application of public procurement procedures and as consequence to follow some basic rules that would start with th issuance of an order from the mayor, establishment of the assessment commission, establishment of the proposals and a preliminary cost estimate for the required action, detailed Terms of Reference and Technical Specifications and a model Service Contract.

Key Note 15: Recommended Structure of the management entity for MSW

The recommended structure of the institutional framework for the management of Regional Scheme in Shkodër-Lezhë WMZ is composed of three main levels:

4. Decision making level – municipal councils that have signed the inter-municipal agreement;
5. The coordination and monitoring level – Steering – Monitoring Committee which is composed of Mayors of municipalities in the inter-municipal agreement and representatives of the central government institutions; and
6. Management level – the Entity of Joint Competence, otherwise e Joint – Stock Company that is established based on an Inter-Municipal Agreement;

The Joint Stock Company has proved to be the most agreeable solution relevant to the institutional structure for the management of the INWTF. The role and responsibilities and the scope of work of the JSC shall be connected to the investment, construction and management of the transportation and treatment of MSW through the operation of Regional Scheme that shall be established in the WMZ of Shkodër-Lezhë to include:

- Four Transfer Stations.
- One Waste Treatment Facility (Vau Dejës) to include a MFR, MBT and the landfill.
- Role of JSC might be extended to include temporary operation and closure of existing disposal sites, until the regional infrastructure is in place and fully operational

Key Note 16: Application of PPP formats

It is to be clear since the beginning that any type of PPP format shall be a profit-based activity, a profit that would be created through combining user / service tariffs and payments from the public contracting authority.

Other characteristic of concessions and other PPP formats is that the private operators/investors shall take over the responsibility of providing initial capital investments either for building new or rehabilitating existing infrastructure or facilities; that in this aspect, when capacities of municipalities for financing of the facilities are missing, this could make entering into a concession contract somehow attractive to municipalities.

Depending on the format of the PPP, in most of the cases the assets of the infrastructure and / facilities that shall be used for rendering the service will remain public owned despite the format of Build – Own – Operate version of the concession.

Concession or any other format of PPP are contract-based agreements, including the general definitions and specific definition, usually to remain unchanged or with very little room for changes, therefore, the ability to adopt this kind of contracts to the changing conditions and future demands of the integrated waste management of MSW is rather limited.

Due to limited room for changing a concession or a PPP contract, though the concession is by nature a long-term binding agreement, the ability of the entity to adopt and insist on compliance with performance and other standards over the long term might result problematic, as it must be reinforced continuously along with changing or adopting specific conditions of the concession agreement.

Because the concession agreement it is by nature a long term binding contract, the concessionaire shall be binding to properly maintain the equipment and facilities so that a standard service delivery and cost efficiency is maintained along the duration of the contract, nevertheless we haven't witnessed yet a case in Albania when the assets of the infrastructure and facilities are transferred at the completion of

concession time to the public authorities.

A concessionaire or a private operator that is engaged in a PPP contract shall be subject of all taxes applicable in the country to include, corporate tax at 15%, VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories shall be part of the operational cost apart from depreciation expenses as part of the capital costs shall be charged to the user's tariff and fix payment from the budget of public authority.

Key Note 17: Application of other private formats

A leasing contract is similar to a concession with regard profitability of its activity, despite the fact that its much shorter in time terms. The lessee takes over all the risks that associate the activity unless it is differently defined in the leasing contract.

Under leasing contract, capital investments are previously or initially provided by the public contracting authority.

Under a leasing contract given that the lessee takes full responsibility and commercial risk over the activity, the private operator will have much more room and ability to adopt these to the changing conditions and responding to future demands however for a short time period, therefore the biggest benefit out of this type of contract would be in the improvement of know-how and capacities.

Due to limited time terms under a leasing contract a private operator, will have limited ability to adopt and insist on compliance with performance and other standards over the long term.

The lessee is under the obligation to restore assets to the public contracting authority at the end of the lease period in the same state as at the beginning, the lessee is responsible for rehabilitation of the installations and equipment as specified in the lease agreement, therefore ownership over assets will remain public before and after the leasing contract.

A lessee or a private operator that is engaged in a leasing contract shall be subject of all taxes applicable in the country to include, corporate tax at 15%, VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories shall be part of the operational cost apart from depreciation expenses as part of the capital costs shall be charged to the user's tariff and fix payment from the budget of public authority.

Key Note 18: Alternative private formats

All two type of contracts to include management and service contract have similarities in the nature of activity and relevant to the market behavior; they are both profit based activities, a profit that is made based on fix payments the private operator connected in either management of service contract, receives from the public contracting authority.

In both cases ownership of assets, i.e., infrastructure and facilities that serve to the service delivery remain state owned.

Under these types of contracts, capital investments are provided from the public contracting authority. Given the sort term nature of contracts, private operators do not take very careful engagement towards maintenance of assets, although they are given back to the public contracting authority at the closing of either management or service contract.

Under a management or service contract, given that the commercial risk fully remains with the public contracting authority, the ability to adopt to the changing conditions and responding to future demands

remains very limited.

Regardless the limited time terms a management or service contract is usually based on a set of performance indicators that the contractor shall meet during the execution of the contract, so insist on compliance with performance and other standards over the terms of the contract would be the major benefit from these type of engagements, however due to the short time term of implementation the contractor, will have limited ability to adopt to required changes as they might come for the establishment of an integrated management system of MSW.

A private operator that is engaged in a management/ service contract shall be subject of all taxes applicable in the country to include, corporate tax at 15%, VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories shall be part of the operational cost, despite depreciation expenses as part of the capital costs which shall remain with the public contracting authority.

Key Note 19: Public owned entities versus private ones

A public owned JSC might not necessarily be a profit-oriented entity, given that a surplus that would be created could be reinvested to extend the service and the quality of the service.

All the time, the assets of this type of entity are created as public and remain publicly owned, even when the entity decides to involve private operators to deliver various aspects of the service or manage facilities.

This entity can adopt and changing conditions to respond to future demands of the integrated waste management of MSW, given that it depends on the ability to raise capital investments and reformat the scope of work and the statute of the organization.

The ability of the entity to adopt and insist on compliance with performance and other standards will rely on the capacities, adoption of business-like management patterns and interference of political structures. Ability to adopt and insist on compliance with performance will rather low as compared to any private operator.

The ability of the entity to maintain equipment and infrastructure would be rather low unless the entity will adoption business like management patterns.

A public entity, with no profit profile avoid to pay corporate tax at 15%, though it will be subject of VAT at 20 % and other local taxes to mention property tax and any other, therefore these expenses categories will be less a financial burden over the costs while depreciation expenses as part of the capital costs shall be registered with the liabilities of the company.

Preparation of transport model, including a transfer station at regional scale and inter-municipal institutional set-up (Shkodër Lezhë Catchment Area)
