The Republic of Albania
Ministry of Environment

The Project for the Support of Waste Minimization and 3R Promotion in Republic of Albania

FINAL REPORT

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Japan International Cooperation Agency

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Kokusai Kogyo Co., Ltd. / Ex Research Institute Ltd.

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Abbreviation

Abbrev.	Albanian Abbrev.	Japanese	English	Albanian
AU	NjA	行政区	Adiministrative Unit	Njesi Administrative
C/P	Homolog	カウンターパート	Counterpart	Homolog
CA	VK	キャパシティ・アセスメント	Capacity Assessment	Vlerësimi i kapaciteteve
CG	QQ	中央政府	Central Government	Qeveria Qëndrore
DF/R	DR/P	最終報告書（案）	Draft Final Report	Draft Raporti Përfundimtar
DG	DIP	局長	Director General	Drejtor I Përgjithshëm
dldp	PZHLD	地方分権と地域開発プログラム	decentralization and local development program	Programi per Zhvillimin Lokal dhe Decentralizimin
F/R	R/P	最終報告書	Final Report	Raporti Përfundimtar
GDP	PBB	国内総生産	Gross Domestic Products	Produktit të Brëndshëm Bruto
IMF	FMN	世界通貨基金	International Monetary Fund	Fondi Monetar Ndërkombëtar
INSTAT	INSTAT	アルバニア統計局	Albanian Institute of Statistics	Shqipëri nga Instituti i Statistikave
JCC	KPK	合同調整委員会	Joint Coordinating Committee	Komiteti i Përbashkët Koordinues
JET	EEJ	日本人専門家チーム	Japanese expert team	Ekipi i Ekspertëve Japonez
JICA	JICA	国際協力機構	Japan International Cooperation Agency	Agjensia Japoneze për Bashkëpunim Ndërkombëtar
LGU(s)	NjQV	地方自治体	Local Government Unit(s)	Njësia e Qeverisjes Vendore
MM	PM	人月	Man-month	Punë-Mujore
MOE	MM	環境省	Ministry of Environment	Ministria e Mjedisit
MTI	MTI	運輸・建設省	Ministry of Transport and Infrastructure	Ministria e Transportit dhe Infrastrukturës
MoUD	MZHU	都市開発省	Ministry of Urban Development	Ministria e Zhvillimit Urban
NEA	ARM	国家環境局	National Environmental Agency	Agjenci Rajonale Mjedisore
NGO(s)	OJQ	非政府組織	Non-Governmental Organization(s)	Organizata jo qeveritare
NSSWM	SKMMN	全国自治体廃棄物管理状況調査	National Survey on Solid Waste Management by LGUs	Studimi Kombëtar i Menaxhimit të Mbetjeve të Ngurta për NjQV
PP	PP	パイロットプロジェクト	Pilot Project	Projekt Pilot

Abbrev.	Albanian Abbrev.	Japanese	English	Albanian
P/R	R/P	進捗報告書	Progress Report	Raporti i Progresit
PDM	MHP	プロジェクト・デザイン・マトリックス	Project Design Matrix	Matrica e Hartimit të Projektit
PO	PO	業務工程表	Plan of Operation	Plani i Operimit
POS	VOP	住民意識調査	Public Opinion Survey	Vezhgim i Opinionit Publik
SDC	SDC	スイス開発協力省	Swiss Agency for Development and Cooperation	Agjencia Zvicerane për Zhvillim dhe Bashkëpunim
SWM	MMN	固形廃棄物管理	Solid Waste Management	Menaxhimi i Mbetjeve të Ngurta
T&M Survey	Studimi i K&L	タイム＆モーション調査	Time and Motion Survey	Studimi i Kohës dhe Lëvizjes
WP	GMR	ウエストピッカー	Waste Picker	Grumbulles të Materialit të Riciklueshëm
W/P	PP	業務計画書	Work Plan	Plani i Punës
WACS	VSPM	ごみ量・ごみ質調査	Waste Amount and Composition Survey	Vezhgim i Sasisë dhe Përbërjes së Mbetjeve
WAS	VSM	ごみ量調査	Waste Amount Survey	Vezhgim i Sasisë së Mbetjeve
WB	BB	世界銀行	World Bank	Banka Botërore
WCS	VPM	ごみ質調査	Waste Composition Survey	Vezhgim i Përbërjes së Mbetjeve

1 Project outline

1.1 Background of the Project

The Republic of Albania (hereafter "Albania") is aiming for social stability, prosperity and improvement of the lives of the people – since its transition from a communist state to a republic in 1991 – and has been proactively promoting economic and human resource exchange with neighboring countries, foreign investment and development of domestic industries, and infrastructures including road networks, electrical power distribution, water and sewage systems. In recent years, there has been a rapid increase in the urban population inflow and consumption volume, and the amount of discharged waste is increasing year by year. Moreover, the management of solid waste is under local governments' responsibility in Albania.

Furthermore, Albania has set a goal to be a member state of European Union (EU) and its environmental policies are set in conformity with EU Directives. Likewise, in solid waste management (SWM), the National Waste Management Strategy of Albania (hereafter "the Strategy") stipulates the goal to reduce the amount of waste disposed within the country by 25 % by 2014, 35 % by 2016, and then 55 % by 2020[1].

Waste treatment (transportation, final disposal of the wastes) is implemented by local governments (communes and municipalities)[2] as a part of public services and is carried out by public corporations and contracted private companies. However, currently, separation of waste is not implemented. Under current practices, it will be difficult to achieve the amount and rate of waste reduction as aimed for in the (aforementioned) set goals.

In order to achieve the goal set in the Strategy, it is urgently required to implement waste reduction through waste management which integrates the 3Rs – reduce, reuse and recycle – at generation sources at a local level. Therefore, a request for technical assistance was made from the Government of Albania to the Government of Japan to develop the government capacity in policy development and implementation for waste management to carry out SWM in line with the Strategy, and the R/D for the Project was signed by both governments on 31 January 2014.

1.2 Framework of the Project

(1) Overall goal

The 3R framework is introduced in sustainable solid waste management (SWM) at local governments in Albania for waste reduction as a nationwide effort.

(2) Project Purpose

MOE's capacity is strengthened in terms of 3R policy development as well as providing support for local governments in order to implement the National Waste Management Strategy and Action Plan in Albania.

(3) Outputs

Output 1: The status of SWM and the challenges to introduce 3R in SWM at each local

[1] According to the National Waste Management Strategy legislated in 2015. Currently this "Strategy" is under review by MOE (as of 2017).
[2] After the Territorial Reform implemented in 2014, communes have been abolished and integrated into municipalities (See 5-2 for details).

government are identified by MOE.

Output 2: A draft Guideline for the introduction of 3R into regional SWM plan (3R Guideline) is finalized.

Output 3: Pilot project of 3R practices in SWM is carried out in small scale local government (Vau i Dejes[3] Municipality) and its challenges are identified.

Output 4: Pilot project of 3R practices in SWM is carried out in medium scale local government (Cerrik Municipality) and its challenges are identified.

Output 5: Pilot project of 3R practices in SWM is carried out in large scale local government (Tirana Municipality) and its challenges are identified.

Output 6: MOE's assistance and cooperation to local governments in 3R practices in SWM is strengthened.

1.3 Pilot Project Sites

Tirana Municipality, Cerrik Municipality, Vau i Dejes Municipality

1.4 Organizations involved in the Project

・Ministry of Environment / MOE

The Ministry of Environment is the main institution involved with and responsible for waste policy and management. The main responsibilities include strategy formulation, legislative drafting, and setting rules for monitoring. National Environmental Agency (NEA) is part of the MoE, and specializes in environmental monitoring and protection. NEA has twelve Regional Environment Agencies (REAs) that work at the regional level.

・Ministry of Transportation and Infrastructure /MTI

The main responsibilities of the Ministry of Transportation and Infrastructure include the preparation and implementation of government policies for the development of waste infrastructure, providing funds for infrastructure development, directing, supervising, setting technical standards for infrastructure; and the coordination of work activities with other ministries and international financial donors.

・Ministry of Urban Development/ MoUD

The main responsibilities of the Ministry of Urban Development include the planning phase of regional waste disposal sites.

<LGUs targeted for Pilot Projects>

・Tirana Municipality

・Cerrik Municipality

・Vau i Dejes Municipality

1.5 Wastes Targeted under the Project

"Waste" in this Project means municipal waste.

[3] Bushat commune has been integrated into Vau i Dejes municipality since the territorial reform in 2016.

1.6 Local Government area classification

In Albania, 373 local governments have been integrated into 61 local governments for improving efficiency of local governance under the territorial reforms, which became effective in September 2016. Prior to this, elections for mayors and local municipal council members took place in June 2016. As a result of the reforms, the new Local Government Units (LGUs) have come to govern relatively large regions that include several neighboring former LGUs as their Administrative Unit (AU) and the new LGUs are now all called "Municipalities," while before the reform the LGUs were called either municipality (*Bashkia*) or commune (*Commune*) depending on their size.

The Project started before the Territorial Reforms and had a commune as one of its targeted LGUs in the pilot project. After the reforms, the new municipality – which includes the area earlier classified as "commune" as one of its AU – has become the targeted LGU. In this report, when "municipality" is referred in relation to the activities implemented after September 2016, it means/refers to the new municipality.

2 Status of the achievement to the project purpose and output

2.1 Transition of PDM and PO

Since PDM (0) was approved at the 1st JCC, PDM and PO have been revised as shown in the table below. The main revision is based on the dissemination of the draft 3R Guideline and numerical values of the assumed values shown in the indicators.

Table 1: Transition of PDM and PO

Rev	Summary of revision	Reference
0	• Approval of work plan	Minute of Meeting (hereafter M/M) for JCC 1 (17 July 2014)
1	• Changing target area of pilot project (Lezhe municipality to Cerrik municipality: due to duplication overlapping of other donors) • Changing target area of pilot project (Bushat commune to Vau i Dejes municipality: due to territorial reform) • To digitize assumed value of project target indicator • To digitize assumed value of Output 1 • Changing of the wording “3R Guideline” to “Draft 3R Guideline” • The indicator for output 3,4,5 “Analysis report is compiled” is changed to “Based on the result of the survey of SWM and problem analysis conducted for the former LGU before the territorial reform and current LGU, the draft 3R Action Plan is compiled” and “Pilot Projects based on the draft 3R Action Plan are implemented”. And means of verifications are changed for the above reasons. • To digitize assumed value of Output 6	M/M for JCC 2 (27Jan. 2016)
2	• The indicator of overall goal “Solid waste management action plan with 3R (3R Plan) is formulated at XX % of total local governments across the country” was changed to “A part of 3R activities stipulated in 3R Action Plan are put into practice at 20 % of total local governments by 2020” • The indicator of overall goal ”3R Plan is put into practice at yy % of total local governments” was changed” to “A part of 3R activities stipulated in 3R Action Plan are put into practice at 20 % of total local governments by 2020. • The indicator of overall goal “Solid waste amount per person (or household) at final disposal stage is reduced by zz % from the amount at the beginning of the project (2014), in local governments working on 3R Plan” was	M/M for JCC 4 (15 Sept. 2016)

Rev	Summary of revision	Reference
	changed to "Municipal Solid waste amount per person (or household) at final disposal stage is reduced by 25 % from the amount at the beginning of the project (2014), in local governments working on 3R Action Plan". • "Workshops for supporting LGUs to formulate 3R Action Plan are held in each of 7 counties" was added into indicator of output 6 • "6-5 MOE, in cooperation with JET, implements workshops for supporting LGUs to formulate 3R Action Plan in each county. The targeted LGUs are assumed to be 40 LGUs in 8 counties" and "6-6 MOE, in cooperation with JET, implements on-site instructions to LGUs for their formulation of 3R Action Plan. The targeted LGUs are assumed to be 40 LGUs in 7 counties" were added into activity related with output 6.	

2.2 Status of achievement of expected output

2.2.1 Output 1

Output 1	The status of SWM and the challenges to introduce 3R in SWM at each local government are identified by MOE.	Achieved
Indicators	• Analysis report on the current status of waste management and challenges of introduction of 3R into SWM at local governments.	Achieved
	• One participatory seminar targeting local governments is held.	Achieved
	• One seminar of the analysis report is held.	Achieved

Status of the achievement:

It considered that "Output 1" is achieved based on the following status.

- "National Survey on Solid Waste Management by LGUs" was conducted from Sept. 2014 to Nov. 2014. Data related to SWM in LGUs were collected from 373 LGUs in 12 counties.
- Survey results were presented at "Seminar on National Survey on Solid Waste Management by LGUs" which was held on 26 Feb. 2015. It was shared with 62 participants from 42 organizations.

2.2.2 Output 2

Output 2	A draft Guideline for the introduction of 3R into regional SWM plans (3R Guideline) is finalized.	Achieved
Indicators	• Workshop on 3R Guideline is held with participation from the central and local government bodies.	Achieved
	• Seminar for the mid-term evaluation of pilot projects and explanation of Draft 3R Guideline is held.	Achieved
	• Draft 3R Guideline is finalized.	Achieved

Status of the achievement:

It is considered that "Output 2" is achieved based on the following status.

- 43 persons from 6 counties and 43 LGUs participated in "Seminar on explanation of draft 3R guideline" which was held on 26 Feb. 2015
- 40 persons from 4 counties and 26 LGUs participated in "Seminar on 2nd explanation of draft guideline and interim reporting of pilot project" which was held on 26 Mar. 2017.
- The Guideline includes data generated by various surveys including waste amount composition survey (WACS), public opinion survey (POS), recycling survey, and analysis of truck scale data at disposal site, which, in turn, enabled the development of municipal-level waste flows. These sets of data add significant value to the 3R Guideline.
- 87 persons from central government and municipalities participated in "The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project" which was held on 9, 10 Mar.2017.
- 3R guideline was finalized and published as a technical document by the MOE.
- 3R guideline was distributed to 61 municipalities and 12 counties in Apr. 2017.

2.2.3 Output 3

Output 3	Pilot project of 3R practices in SWM is carried out in small scale local government (Vau i Dejes Municipality) and its challenges are identified.	Achieved
Indicators	• Based on the results of the survey of SWM and problem analysis conducted for the former LGU (Bushat Commune) before the territorial reform, the draft 3R Action Plan is complied.	Achieved
	• Draft 3R Action Plan for the current LGU (Vau i Dejes Municipality after the territorial reform) is formulated.	Achieved
	• Pilot Projects based on the draft 3R Action Plan are implemented.	Achieved

Status of the achievement:

It considered that "Output 3" is achieved based on the following status.

- Draft 3R action plan for Bushat commune was prepared on Jan. 2015 based on the field survey and problem analysis.
- Draft 3R action plan for Vau i Dejes municipality was prepared on Mar. 2017.
- Pilot project which was planned based on the draft 3R action plan was implemented from Sept. 2015 to Dec. 2016.
- The pilot project was conducted at Vau i Dejes Municipality where solutions for agricultural/ green waste reduction were explored. The pilot project identified challenges of introducing on-site and off-site composting to reduce agricultural/ green waste and offered opportunities to realize a clean environment and efficient waste collection in rural areas.

2.2.4 Output 4

Output 4	Pilot project of 3R practices in SWM is carried out in a medium scale local government (Cerrik Municipality) and its challenges are identified.	Achieved
Indicators	• Based on the result of the survey of SWM and problem analysis conducted for the former LGU (Cerrik Municipality) before the territorial reform, the draft 3R Action Plan is compiled.	Achieved
	• Draft 3R Action Plan for the current LGU (Cerrik Municipality	Achieved

	after the territorial reform) is formulated. • Pilot Projects based on the draft 3R Action Plan are implemented.	 Achieved

Status of the achievement:

It considered that "Output 4" is achieved based on the following status.

- Draft 3R action plan for former Cerrik Municipality was prepared on Jan. 2015 based on the field survey and problem analysis.
- Draft 3R action plan for Cerrik Municipality was prepared on Dec. 2016.
- Pilot project which was planned based on the draft 3R action plan was implemented from Sept. 2015 to Dec. 2016.
- The pilot project identified challenges of making recycling economically feasible and offered opportunities to realize efficient door-to-door waste collection services which enable a clean environment.

2.2.5 Output 5

Output 5	Pilot project of 3R practices in SWM is carried out in a large scale local government (Tirana Municipality) and its challenges are identified.	Achieved
Indicators	• Based on the result of the survey of SWM and problem analysis conducted for the former LGU (Tirana Municipality) before the territorial reform, the draft 3R Action Plan is compiled. • Draft 3R Action Plan for the current LGU (Tirana Municipality after the territorial reform) is formulated. • Pilot Projects based on the draft 3R Action Plan are implemented.	Achieved Achieved Achieved

Status of the achievement:

It is considered that "Output 5" is achieved based on the following status.

- Draft 3R action plan for former Tirana municipality was prepared on Jan. 2015 based on the field survey and problem analysis.
- Draft 3R action plan for Tirana municipality was prepared on Mar. 2017.
- Pilot project which was planned based on the draft 3R action plan was implemented from Sept. 2015 to Dec. 2016.
- The pilot project has shown that schools have a high potential to raise students' and their parents' awareness on the issue of recycling.

2.2.6 Output 6

Output 6	MOE's assistance and cooperation to local governments in 3R practices in SMW is strengthened.	Nearly Achieved
Indicators	• Meetings regarding 3R activities targeting LGUs are held 5 times. • 2 meetings between MOE and recycling companies are organized through pilot project activities. • 5 issues of the Project Newsletter are published. • A workshop for supporting LGUs to formulate 3R Action Plan is held in each of 7 counties	Achieved Not achieved Achieved Achieved

Status of the achievement:

It is considered that "Output 6" is achieved based on the following status.

- (1) Seminar on national survey on solid waste management by LGUs (26 Feb. 2015)
- (2) Seminar on explanation of waste flow to LGUs (26 Feb. 2015)
- (3) Seminar on explanation of draft 3R guideline (12 May. 2015)

- (4) Seminar on 2nd explanation of draft 3R guideline and interim reporting of pilot project (23 Mar. 2016)
- (5) The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project (9, 10 Mar. 2017)
- Following the commencement of deliberations at the Albanian parliament in September 2016 concerning the resumption of 'resource waste import', the recycling industry and the Ministry of the Environment were in negotiations and were in a very sensitive relationship. A meeting could not take place because the relationship between them had not improved.
- 5 Newsletters were published.
- Supporting workshops for formulation of 3R action plan for municipality were held from Sept. 2016 to Dec. 2016.

2.2.7 Project purpose

Project Purpose	MOE's capacity is strengthened in terms of 3R policy development as well as providing support for local governments in order to implement the National Waste Management Strategy and Action Plan in Albania.	Achieved
Indicators	• A workshop for introducing the finalized draft 3R Guideline to LGUs is carried out by MOE. • Through the above-mentioned workshop, more than 25 LGUs will have a preliminary draft of 3R Action Plan for respective LGUs.	Achieved

Status of the achievement:

It is considered that "Project purpose" is achieved based on the following status.

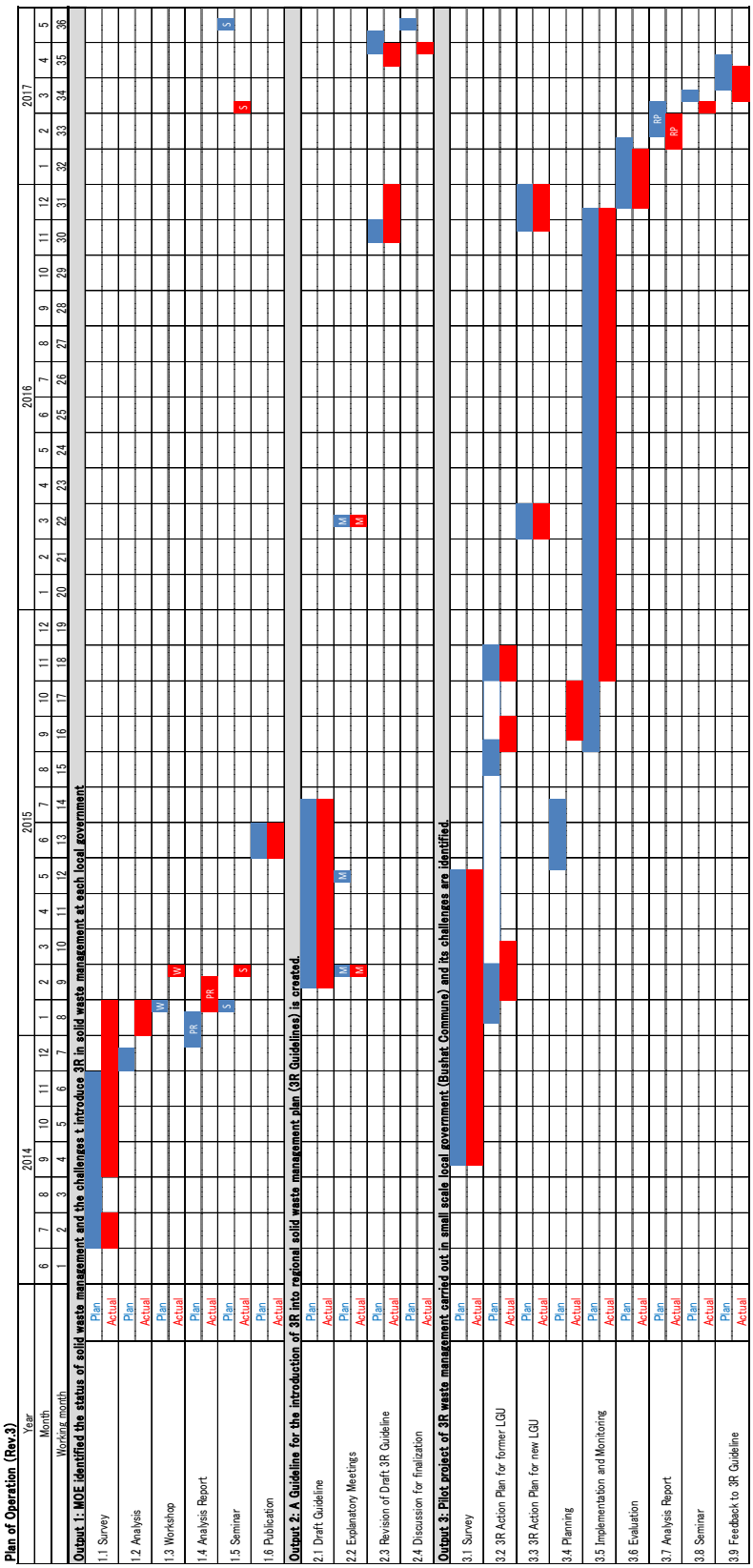
- Seminar on introducing 3R guideline and explanation of pilot project which was organized by MOE was held on 9, 10 Mar. 2017. 87 persons from central and county government organization and municipality participated in the seminar.
- 26 municipalities prepared draft 3R action plan.

At the time of the project's start, the MOE staff had a strong sense of 'command hierarchy' and they felt it was the duty of a municipality to follow and implement the legislated relevant laws and the national strategy, and that its measures should be considered by the local government itself. However, the MOE staff have come to recognize the needs of MOE's guidance to the local governments by seeing directly the individual capabilities of local governments and the problems they face through the project – this can be considered as a great capacity improvement. On the other hand, the MOE's human resources are so limited; therefore, it is impossible for the MOE staff to immediately provide guidance to all local governments. Under such circumstances, the MOE stated at the final JCC that the MOE staff will continue to implement the workshops for supporting 3R Action Plan formulation which can be implemented with limited MOE staff. Moreover, the fact that MOE staff now recognize that they are the leading entity for environmental policy and that it is their responsibility to instruct municipalities can be considered as an indicator of their improved supporting capabilities.

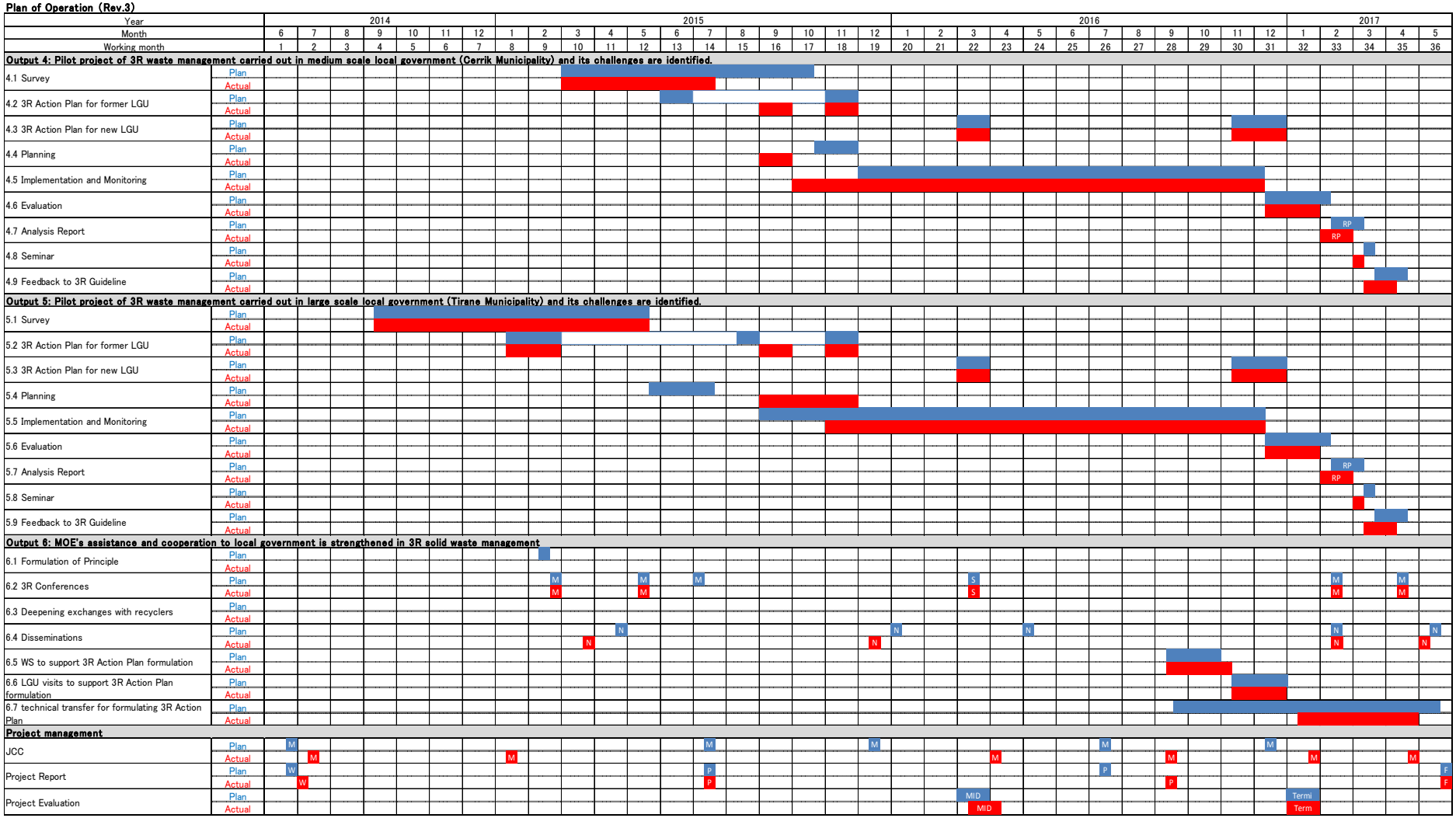
3 Implemented activities

3.1 Record of implemented activities

Implemented activities schedule according to PO are shown in the table below.



Plan of Operation (Rev.3)



<Symbol>
SE: Seminar, RP: Report, WS: Workshop, MT: Meeting, NL: Newsletter, ICR: Project Inception Report, PR: Progress Report, Mid: Mid-term Project Review, Terminal: Project Terminal Evaluation
Local election had been held at June 2015

3.2 Achievement of each activity

3.2.1 Common activity

Activity 0.1 To prepare work plan and hold a council

Work plan was prepared by JET and it was approved by 1st Joint coordination meeting (hereafter JCC).

Activity 0.2 Holding Joint coordination committee (JCC)

The JCC was held almost once every six months. Main topics agreed were shown in the table below. For each Minutes of meeting (hereafter M/M) of JCC, refer to "Annex 7.1 JCC minutes of meeting".

Table 2: Record of JCCs held

Time	Venue	Date	Main topics agreed
1	MOE	17 July 2014	Explanation of work plan, its approval Approval of PDM(0) and PO(1)
2	MOE	27 Jan. 2015	Explanation of draft 3R guideline Explanation of pilot project Approval of PDM(1) and PO(2)
3	MOE	5 Apr. 2016	Explanation of results of midterm review and recommendations
4	MOE	15 Sept. 2016	Approval of PDM(2) and PO(3)
5	MOE	26 Jan. 2017	Explanation of results of terminal evaluation and recommendations
6	MOE	25 Apr. 2017	Explanation of project output Explanation of draft final report

Activity 0.3 Conduction of capacity assessment: C/A

We conducted the first capacity assessment (CA) in August 2014. After holding events such as seminars, we planned to implement CA until the end of 2015, but the degree of involvement in the seminars of the Ministry of the Environment was low, so we could not carry out the assessment.

The officials of the MOE have stressed that they are administrative officers and therefore expert review and discussions are to be assigned to external consultants and Ministry of the Environment staff will act as a coordinator on it. However, at the 3R Guidelines Explanation Seminar held at the end of the Project, the 3R guidelines were explained to the local governments by MOE. It seems that MOE officials understand the responsibilities of the MOE with regard to the municipalities and they acted on their own. This action is considered to help improve the municipal guidance capacity of the MOE officials.

Activity 0.4 To prepare progress reports and final report

Progress report No.1 and No. 2 were prepared on Sept. 2015 and Sept. 2016 respectively and these reports were approved by JCC. Draft final report was prepared in Apr. 2017 and it was requested for comments from JCC members. Final report which accommodated for comments from JCC members was submitted in June 2017.

Activity 0.5 Training in Japan for C/P

Trainings in Japan were conducted in Ogaki Municipality, Gifu Prefecture. The aim of the trainings were for the participants to understand the roles of the central government and local government organizations, to learn about Japanese solid waste management, learn about 3R through activities and based on the lessons learnt, to provide feedback to Albania. Conducted trainings were shown in the table below. For details refer to "Annex 7.2 Training tours".

Table 3: List of conducted training in Japan

	Date	Participants	Training contents
First	18 May, 2015 – 23 May, 2016	MOE: 2 persons MOTI: 1 person MOUD: 1 person	Lecture: 3 times Site visit: 9 places
Second	18 May, 2016 – 28 May, 2016	Vau i Dejes Municipality: 2 persons Cerrik Municipality: 2 persons	Lecture: 2 times Site visit: 14 places
Third	3 April, 2017 – 11 April, 2017	Ura vaigore Municipality : 1 person Permet Municipality: 1 person Konicipor Municipality: 1 person	Lecture: 3 times Site visit: 12 places

Activity 0.6 Setting up of PDM indicator

The assumption value shown in PDM was changed to the target value, and the approvals were obtained for the revision of PDM (1) during the 2nd JCC and PDM (2) during the 4th JCC.

3.2.2 Activity related with output 1

Activity 1-1 MOE collects and analyses existing information on municipal SWM in cooperation with MTI and JICA experts team (JET)

Nationwide survey on solid waste management practices was implemented through outsourced work which utilized the Q&A method. Q&A was sent to the persons in charge at 373 LGUs which contained municipalities and communes in 12 counties.

Activity 1-2 MOE identifies the challenges how to introduce 3R in SWM at local governments in cooperation with MTI and JET.

There were only 6 municipalities out of 373 municipalities with exclusive (SWM) organization. Other municipal officials concurrently serve as environmental and infrastructure work and many local government officials have not grasped the waste management situation of the local governments. In particular, there are hardly any local government officials who know the financial situation of the waste management of their municipalities and it is urgent for local officials to grasp the situation of waste management including finance. In addition, there were only five provinces that had waste management divisions in the provincial government responsible for each municipality and none of the provincial governments understood the waste management situation of the municipality

concerned. Furthermore, it was analyzed that the provincial government did not allocate its own budget and it was difficult to implement the waste strategy centered on the provincial government. Details are shown in “Annex 1 Activity related with Output 1 Nationwide survey on solid waste management practices”.

Activity 1.3 MOE organizes a seminar in the cooperation with JET for local governments to understand their opinions and interests on SWM.

According to the results of “Nationwide survey on solid waste management in LGUs”, the persons in charge of waste management did not grasp the actual situation for solid waste management in their own LGUs. Given this situation, it was determined that no topics will be raised from the persons in charge and therefore the “Seminar in cooperation with JET for local governments to understand their opinions and interests on SWM” was not held. In the "Waste Management Situation Seminar" as shown in "Activity 1.5", the results of the survey were shared with the municipal officials and central government officials at “Seminar on National survey on solid waste management by LGUs”.

Activity 1.4 MOE prepares an analysis report to summarize the status of SWM at local governments and their principle to introduce 3R into SWM under the cooperation with JET.

Based on the “Nationwide survey on solid waste management in LGUs”, the applicability of several 3R activities in Albania and draft 3R activities, the possibility and points to be considered in “Measures to promote 3Rs, possibility of introducing measures and points to be considered when introducing” were summarized.

Activity 1.5 MOE holds seminars to present analysis report for local governments under the support of JET.

The “Seminar on National survey on solid waste management by LGUs” was held based on the results obtained from “Nationwide survey on solid waste management by LGUs” on 26 Feb. 2015. 8 persons from central governments, 43 persons from LGUs and 5 persons from donors participated.

Activity 1.6 MOE publishes the analysis report and relative information of participatory workshops and seminar via Internet under the cooperation of MTI and JET.

Q&A and results of “Nationwide survey on solid waste management by LGUs” were uploaded on MOE and MOTI homepages.

3.2.3 Activity related with output 2

Activity 2-1 MOE collaborates and supports JET to formulate a draft Guideline for the introduction of 3R in SWM to local governments (Draft 3R Guideline) based on the results of participatory workshops and reports under the cooperation of JET.

The 3R guideline was approved by MOE in Apr. 2017. 3R guideline was distributed to person in charge in 61 municipalities and 12 counties and it was submitted to JICA head quarter as a technical document.

Activity 2-2 MOE holds an explanatory seminar of the Draft 3R Guideline for recycling companies and local governments under the cooperation of MTI and JET.

The Albanian government decided to prohibit imports of "recyclable raw materials" from 2014. Some recycling association members were adversely affected due to a shortage of raw materials. Afterward, importation of some metal materials was permitted. Based on such circumstances, the relationship between MOE and the recycling association became strained due to commencement of the discussion for "Reconsidering Import for recyclable raw materials". Discussions between MOE and the recycling association were not held as relations remained strained up to the end of the Project.

Activity 2-3 MOE revises the Draft 3R Guidelines under the cooperation of JET, through feeding back the outcomes of above-mentioned workshops and a seminar.

The "The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project" was conducted among 87 persons from central, county government and municipality on 9, 10 Mar. 2017. Several questions were raised from municipalities regarding 3R guideline and general waste management and MOE correctly answered these questions. Details are shown in "Annex 6.2.4 The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project".

Activity 2-4 Conference for finalization of the draft 3R Guideline is held by MOE and JET

JET requested MOE to give comments on Draft 3R guideline. However, there were no comments received from MOE. MOE decided that 3R guideline will be issued as MOE's technical document. Therefore, it was issued as 3R guideline instead of draft 3R guideline. Furthermore, 3R guideline was distributed to all of the counties and municipalities in Apr. 2017.

3.2.4 Activity related with output 3

Activity 3-1 JET surveys the status of SWM in cooperation with local government (Vau i Dejes Municipality) on their supervising / administrative area so as to know (estimates) base-line of waste amount and composition at generation source, reuse, recycle and final disposal sites, and social awareness among waste generators such as residents.

A baseline survey was conducted from Sept. 2014 to May 2016. The baseline survey consists of the following: 1) waste amount and waste composition survey; 2) incoming amount of waste at landfill site; 3) Public opinion survey; and 4) recycling survey. Current waste flow at target areas were made based on the above survey results.

Details are shown in "Technical document: 3R guideline, 3 waste amount waste composition survey, 4 waste flow at target area".

Activity 3-2 MOE and JET support the target LGU to formulate the draft 3R Action Plan based on the result of the above-mentioned survey for the former Bushat Commune.

Based on the result of the survey of SWM and problem analysis conducted for the former LGU (Bushat Commune) before the territorial reform, the draft 3R Action Plan is compiled

by the person in charge of waste management of Bushat commune in Sept. 2015.

Activity 3-3 MOE and JET support the target LGU to formulate the draft 3R Action Plan based on the result of the above-mentioned survey for the new Vau i Dejes Municipality.

Draft 3R Action Plan for the current LGU (Vau i Dejes Municipality after the territorial reform) is formulated by the person in charge of waste management of Vau i Dejes municipality. It was targeted for treatment of agriculture waste in draft 3R action plan. Details are shown in "Technical document: 3R guideline, 7 3R Action Plan for Vau i Dejes municipality".

Activity 3-4 JET and MOE plan and design a pilot project in the cooperation with local government based on the draft 3R Action Plan.

Pilot Projects based on the draft 3R Action Plan are planned from June 2015 to beginning of Sept. 2015. Pilot projects consist of the following: 1) Ensure the waste collection service with small containers; 2) Improve collection system with large containers and discharging manner of citizens (with the purpose to examine the separation of agricultural waste); and 3) Reduce agricultural waste at the generation source (on-site composting). Details are shown in "Annex 3 Activities related with Output 3".

Activity 3-5 JET and local government implements and monitor the pilot project under the cooperation with MOE.

The pilot projects were implemented in the following three phases from Sept. 2015 to Dec. 2016 (start dates in brackets): 1) Ensure the waste collection service with small containers (from Sept. 2015); 2) Improve collection system with large containers and discharging manner of citizens (with the purpose to examine the separation of agricultural waste) (from Feb. 2016); and 3) Reduce agricultural waste at the generation source (on-site composting) (from. Sept. 2016). Monitoring of the pilot projects was mainly conducted by JET at the beginning stages, but it was gradually transferred to the person in charge of waste management in Vau i Dejes Municipality. Activities of the pilot project were modified when necessary.

Activity 3-6 JET and MOE evaluate and make an analysis of the pilot project under the collaboration with local government.

Interim reporting for the pilot project was conducted in Sept. 2016 and final reporting was conducted in Mar. 2017 in the "The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project". Recommendations for continuation and expansion of pilot project at Vau i Dejes Municipality are shown below.

- Phase 1
    - Through the PP the waste collection service by compactor truck covering 300 small containers became normalized. This is evident by the service continuing to be conducted after the end of the PP. Collection is usually done once a week for each container.
    - The PP did however reveal an issue with the compactor collection system, when a massive amount of waste (mainly organic waste) was observed to be discharged beside the containers.

- Phase 2
  - Large containers dedicated for organic waste have been installed to solve the problem. The PP carried out the role of observing waste quality and level of people's cooperation in order to assist the reduction of waste for the next step.
  - The result was that the sites are cleanly maintained and efficient waste collection is realized. Although the phase 1 problem has been fixed, phase 2 revealed the next challenge and the necessity to reduce the waste to be transported where the municipality has to transport organic waste discharged in substantial amounts.
- Phase 3
  - Off-site composting is not able to reduce the waste amount to be transported. This is the reason why on-site composting fits the needs of municipalities that have a problem with waste transportation since on-site composting reduces the transported amount.
  - Thus the PP focused on on-site composting. Several methods of composting have been observed from good practices learned through PP survey.
  - The PP demonstrates that composting definitely needs to be expanded for efficient waste transportation and promotion of 3R. The municipality and central authorities are urged to work on that together.

Details are shown in "Annex 3, Activities related with Output 3".

Activity 3-7 JET and MOE make an analysis report of the pilot project under the collaboration with local government.

The pilot project report was made in Mar. 2017. Detailed activities are shown in "Annex 3, Activities related with Output 3".

Activity 3-8 JET, MOE and local government co-organize the seminars to report the result of pilot project to residents and stakeholders.

Pilot project activities were reported by the persons from pilot project target area to other municipalities in "The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project" in Mar. 2017. Details are shown in "Annex: Activities related with Output 3" and "Annex 6.2.4 The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project".

Activity 3-9 JET, MOE and local government apply the lessons gained from pilot project to the 3R Guidelines

The following is feedback from the 3R guideline throughout pilot project.

- The result was that the sites are cleanly maintained and efficient waste collection is realized. Although the phase 1 problem has been fixed, phase 2 revealed the next challenge and the necessity to reduce the waste to be transported where the municipality has to transport organic waste discharged in substantial amounts.
- The PP demonstrates that composting is definitely needed to be expanded for efficient waste transportation and promotion of 3R. The municipality and central authorities are urged to work on that together.

Contents of pilot project were published in 3R guideline as "Examples of 3R activities based

on the lessons learnt from pilot project implemented in target area". Details are shown in "Technical document: 3R guideline, 8 Sample of activity".

3.2.5 Activity related with output 4

Activity 4-1 JET surveys the status of SWM in cooperation with local government (Cerrik municipality) on their supervising / administrative area so as to know (estimates) base-line of waste amount and composition at generation source, reuse, recycle and final disposal sites, and social awareness among waste generators such as residents.

Baseline survey was conducted from Sept. 2014 to May 2016. Baseline survey consists of the following: 1) waste amount and waste composition survey; 2) incoming amount of waste at landfill site; 3) Public opinion survey; and 4) recycling survey. Current waste flow at target areas were made based on the above survey results.

Details are shown in "Technical document: 3R guideline, 3 waste amount waste composition survey, 4 waste flow at target area".

Activity 4-2 MOE and JET support the target LGU to formulate the draft 3R Action Plan based on the result of the above-mentioned survey for the former Cerrik Municipality.

Based on the results of the survey of SWM and problem analysis conducted for the former LGU (Cerrik Municipality) before the territorial reform, the draft 3R Action Plan is compiled by the person in charge of waste management of Cerrik Municipality on Sept. 2015.

Activity 4-3 MOE and JET support the target LGU to formulate the draft 3R Action Plan based on the result of the above-mentioned survey for the new Cerrik Municipality.

Draft 3R Action Plan for the current LGU (Cerrik Municipality after the territorial reform) is formulated by the person in charge of waste management of Cerrik Municipality on Oct. 2016. It had the following goals: 1) Reducing the amount of waste brought to landfill site and 2) Improvement of discharge manner in rural areas. Details are shown in "Technical document: 3R guideline, 6 3R Action Plan for Cerrik municipality".

Activity 4-4 JET and MOE plan and design a pilot project under the cooperation with local government based on the draft 3R Action Plan.

Pilot Projects based on the draft 3R Action Plan were planned from June 2015 to the beginning of Sept. 2015. Pilot project consists of the following: 1) Reducing the amount of waste brought to landfill site and 2) Improvement of discharge manner in rural areas. Details are shown in "Annex 4 Activities related with Output 4".

Activity 4-5 JET and local government implement and monitor the pilot project under the cooperation with MOE.

Pilot project at the Cerrik Municipality was delayed about 6 months from the original schedule due to the re-selection of mid-size municipality (refer to 5.1 Selection of middle-sized municipality for pilot project).

The pilot projects were implemented from Jan. 2016 to Dec 2016. The implementation of the following started in each respective date. 1) Reducing for bringing amount of waste to

landfill site from Jan. 2016; and 2) Improvement of discharge manner in rural area from Apr. 2016. Monitoring of the pilot projects was mainly conducted by JET at the beginning stages, but it was gradually transferred to the person in charge of waste management in Vau i Dejes Municipality. Activities of the pilot project were modified when necessary.

Activity 4-6 JET and MOE evaluate and make an analysis of the pilot project under the collaboration with local government.

Interim reporting for the pilot project was conducted in Sept. 2016 and final reporting was conducted on Mar. 2017 in the "The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project". Recommendation for continuation and expansion of pilot project at Cerrik Municipality are shown below.

- It was revealed that the operation of separate collection for recyclables requires a substantial cost. Given the current municipal financial situation it is difficult to continue.
- The results of the collected recyclables amount were insufficient to reduce the landfill amount for mitigating environmental impacts and to recover the transportation cost. The reason was that the citizens in general have not been cooperative in separate discharge.
- It was found through implementation of the PP in Ferme area, however, that it is effective to introduce door-to-door collection system for general waste prior to starting the separate collection of recyclables. It also suggests that the collection of the general waste and the recyclables may better be conducted on separate days, although it involves higher costs. Collecting the general waste and the recyclables on the same day seems to discourage the citizens from segregating the recyclables at home and requires collection workers to do extra work of separation during the collection process.
- In urban areas, especially in the areas with apartment buildings, the bell collection of the recyclables does not seem to be effective while other general waste can be discharged at any time in communal containers placed in their neighborhood. Moreover, there were some opinions that it is not reasonable to expect the people living in a high-rise apartment building to come out of their houses to discharge the recyclables upon hearing the music of the collection vehicle.
- When the separate collection of the recyclables is conducted with good cooperation from the residents and a sufficient amount of the recyclables can be collected, the separate collection contributes to the reduction of environmental load caused at a landfill, and will lead to lower costs of transporting collected waste to a regional landfill in future.

Details are shown in "Annex 4, Activities related with Output 4".

Activity 4-7 JET and MOE make an analysis report of the pilot project under the collaboration with local government.

Pilot project report was made in Mar. 2017. Details are shown in "Annex 4, Activities related with Output 4".

Activity 4-8 JET, MOE and local government co-organize the seminars to report the result of pilot project to residents and stakeholders.

Pilot project activities were reported by the persons from pilot project target area to other municipalities in "The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project" in Mar. 2017.

Details are shown in "Annex 4, Activities related with Output 4" and "6.2.4 The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project".

Activity 4-9 JET, MOE and local government apply the lessons gained from pilot project to the 3R Guidelines.

Details of pilot project were published in 3R guideline as "Examples of 3R activities based on the lesson and learnt from pilot project which implemented in target area". Details are shown in "Technical document: 3R guideline, 8 Sample of activity". Feedbacks from 3R guideline throughout pilot project is shown below.

- It takes substantial costs to implement separate collection of recyclables. It is premature for municipalities in Albania to introduce it based on the current financial situation.
- It is recognized, however, that introduction of door-to-door collection for general waste and changing one of the collection days to a collection day for recyclables in rural areas enables residents to easily understand about separate collection of recyclables, and the amount of collected recyclables will increase. Consequently, when separate collection of recyclables is introduced, step by step introduction is recommended.
- On the other hand, in urban areas, especially in the areas where there are many apartments, it is difficult to collect recyclables using bell collection when general waste can be discharged at any time to communal containers placed in the area.
- Same as suggestion for Cerrik Municipality, when the separate collection of the recyclables is conducted with good cooperation from the residents and a sufficient amount of the recyclables can be collected, the separate collection contributes to the reduction of environmental load caused at a landfill, and will lead to lower costs of transporting collected waste to a regional landfill in future.
- It was found in PP for Cerrik Municipality that improvement of waste discharge/collection system is a priority before introduction of separate/collection for recyclables. It is also recommended for municipalities where present solid waste management has not been managed adequately to improve solid waste management before separate/collection of recyclables.

Details are shown in "Technical document: 3R guideline, 8 Sample of activity"

3.2.6 Activity related with output 5

Activity 5-1 JET surveys the status of SWM in cooperation with local government (Tirana municipality) on their supervising / administrative area so as to know (estimates) base-line of waste amount and composition at generation source, reuse, recycle and final disposal sites, and social awareness among waste generators such as residents.

Baseline survey was conducted from Sept. 2014 to May 2016. Baseline survey consists of the following 1) waste amount and waste composition survey, 2) incoming amount of waste at landfill site, 3) Public opinion survey and 4) recycling survey. Current waste flow at target areas were made based on the above survey results.

Details are shown in "Technical document: 3R guideline, 3 waste amount waste composition survey, 4 waste flow at target area".

Activity 5-2 MOE and JET support the target LGU to formulate the draft 3R Action Plan based on the result of the above-mentioned survey for the former Tirana Municipality.

Based on the results of the survey of SWM and problem analysis conducted for the former LGU (Tirana Municipality) before the territorial reform, the draft 3R Action Plan is compiled by the person in charge of waste management in Tirana Municipality on Sept. 2015.

Activity 5-3 MOE and JET support the target LGU to formulate the draft 3R Action Plan based on the result of the above-mentioned survey for the new Tirana Municipality.

Draft 3R Action Plan for the current LGU (Tirana Municipality after the territorial reform) was formulated by the person in charge of waste management in Tirana Municipality in Oct. 2016. Targets of the Draft 3R Action Plan are 1) Awareness activity and education to discharger and 2) Recycle and reduction of waste amount throughout recycling. Details are shown in "Technical document: 3R guideline, 7.2 Outline of 3R Action plan and selected 3R activities in Model Municipalities".

Activity 5-4 JET and MOE plan and design a pilot project under the cooperation with local government based on the draft 3R Action Plan.

Pilot Projects based on the draft 3R Action Plan were planned from June 2015 to the beginning of Sept. 2015. Pilot projects consist of 1) Recyclable separation activity and environmental education at school and, 2) Separate collection of recyclables in community targeting the school students' families. Details are shown in "Annex 5 Activities related with Output 5".

Activity 5-5 JET and local government implements and monitor the pilot project under the cooperation with MOE and relevant stakeholders (recycling companies etc.).

Pilot projects were implemented from Jan. 2016 to Dec. 2016. The implementation of the following started in each respective date. 1) Recyclable separation activity and environmental education at school from Sept. 2017; and 2) Separate collection of recyclables in community targeting the school students' families from May. 2016. Monitoring of the pilot projects was mainly conducted by JET at the beginning stages, but it was gradually transferred to the person in charge of waste management in Vau i Dejes Municipality. Activities of the pilot project were modified when necessary.

Activity 5-6 JET and MOE evaluate and make an analysis of the pilot project under the collaboration with local government.

Interim reporting for the pilot project was conducted in Sept. 2016 and final reporting was conducted in Mar. 2017 in the "The Seminar for introducing the finalized draft 3R Guideline

cum the Seminar on reporting result of 3R Pilot Project". Recommendations for continuation and expansion of pilot project at Tirana Municipality are shown below.

- Phase 1
    - It is necessary to set the route from the point of separate discharge (the entrance) through collection and selling (the exit) prior to starting the separate discharge. Otherwise, the recyclables discharged by students will end up being accumulated in the school, or being discharged with other wastes, ruining the student efforts of discharging separately. Such a failure would prevent implementing the "next" activity and should be avoided with an initial design that incorporates the entrance through the exit.
    - It is necessary to establish a system to monitor the activity by the municipality and/or schools themselves, in order to secure prompt communication between the collector(s) and schools.
    - It is recommended to have several collectors active in the target area and ready to cooperate in the contact list, rather than depending on only one. It is also recommended to secure collector(s) who have their own means of transportation as long as the school-based activity is concerned.
    - Teachers as well students tend to get more interested in the earnings from the selling of recyclables rather than separation activity itself. It is necessary to remind them occasionally "why separation and recycling are necessary."
    - If the separate collection of recyclables is already implemented in the neighborhood where the target schools of the activity are located, it is necessary for the school activity to follow the same rule of separation in the neighborhood. (For example, if the neighborhood has a system which requires recyclables to be separated into 4 kinds and to discharge in different colors of containers, the school should also have the same 4 colors of containers). If the neighborhood does not have separate collection yet, it is possible to install color-coded recycling bins according to the kinds of recyclables dealt by the available collectors or according to the categorization that the collectors may request. However, the categorization should be simple so that students can easily follow. In Tirana PP, one collector could collect all PET, glass, and cans together, and thus the separation would be done in two categories, namely the target recyclables and non-recyclables.
- Phase 2
    - Talk about the cause, not just rules (Why do we recycle?);
    - Let the students think of different kinds of activities because each school has its own problems and characteristics and students are also very creative;
    - Organize neighboring schools in one group so the transportation can be arranged easily and with lower costs for each school;
    - Connect the (group of) schools with nearby collectors / recyclers;
    - Provide daily support initially and monitoring for follow-up;
    - Target the materials that have a market in the near-by area;
    - Set route of collection in advance;

Details are shown in “Annex 5, Activities related with Output 5”.

Activity 5-7 JET and MOE make an analysis report of the pilot project under the collaboration with local government.

Pilot project report was made on Mar. 2017. Details are shown in “Annex 5, Activities related with Output 5”.

Activity 5-8 JET, MOE and local government co-organize the seminars to report the result of pilot project to residents and stakeholders.

Pilot project activities were reported by the persons from pilot project target area to other municipalities in “The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project” on Mar. 2017.

Details are shown in “Annex 4, Activities related with Output 4” and “6.2.4 The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project”.

Activity 5-9 JET, MOE and local government apply the lessons gained from pilot project to the 3R Guidelines.

Details of pilot project were published in 3R guideline as “Examples of 3R activities based on the lesson and learnt from pilot project which implemented in target area”.

- Talk about the cause, not just rules (Why do we recycle?);
- Let the students think of different kinds of activities because each school has its own problems and characteristics and students are very creative, too;
- Organize neighboring schools in one group so the transportation can be arranged easily and with lower costs for each school;

Details are shown in “Technical document: 3R guideline, 8 Sample of activity”. Feedback from 3R guideline throughout pilot project is shown below.

3.2.7 Activity related with output 6

Activity 6-1 MOE sets up basic principle and institutional measures (e.g. authorized mechanism to holds meetings etc.) how to support local governments under the consultation of JET.

“Seminar on national survey on solid waste management by LGUs” was held based on the results of “National Survey on Solid Waste Management by LGUs” on 26 Feb. 2015. 8 persons from central government, 43 persons from LGUs and county government and 5 persons from donors participated and information was shared regarding organization of waste management at the LGU level.

Activity 6-2 MOE organizes conferences on 3R promotion and SWM with local governments under the cooperation with JET.

The following seminars and workshops were conducted. Details are shown in “Annex 6.2 Seminars and Workshops”.

Table 4: Conducted seminar and workshop

	Date	Name of seminar and/or workshop
1	26 Feb. 2015	Seminar on national survey on solid waste management by LGUs Seminar on explanation of waste flow to LGUs
2	12 May, 2015	Seminar explanation of draft 3R guideline
3	23 Mar. 2016	Seminar on 2nd explanation of draft 3R guideline and interim reporting of pilot project
4	19 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Gjirokaster county)
5	21 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Vlore county 1)
6	23 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Vlore county 2)
7	26 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Fier county)
8	29 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Berat county)
9	11 Oct. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Elbasan county)
10	12 Oct. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Shkoder county)
11	13 Oct. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Lezhe county)
12	9, 10 Mar. 2017	The Seminar for introducing the finalized draft 3R Guideline cum the Seminar on reporting result of 3R Pilot Project

Activity 6-3 MOE will deepen their exchanges with recycling companies through the reporting seminar on pilot projects and the seminar on the draft 3R Guideline, in cooperation with JET and LGUs.

The Albanian government decided to prohibit the import of “recyclable raw materials” from 2014. Some recycling association members were adversely affected due to a shortage of raw materials. Afterward, importation of some metal materials was permitted. Based on such circumstances, the relationship between MOE and the recycling association became strained due to commencement of the discussion for “Reconsidering Import of recyclable raw materials”. Discussions between MOE and the recycling association were not held as relations remained strained up to the end of the project.

Activity 6-4 MOE disseminates the Project activities & Output by project newsletter to local governments as well as makes an information provision via Internet to public, under the collaboration with JET.

Newsletters in English and Albanian were issued. Albanian versions were released to the public through MOE and MTI web site. Details are shown in “Annex 6.4 Public relation”.

Table 5: Issued newsletters

No.	Month issued	Main topics
1	Apr. 2015	• Introduction of the project

No.	Month issued	Main topics
2	Feb. 2016	• Introduction of pilot project in 3 target areas • Information of 1st Training in Japan
3	Nov. 2016	• Reporting on pilot project progress in 3 target areas • Information on 2nd Training in Japan • Reporting on Prizren visit
4	Feb. 2017	• Final reporting on pilot project in 3 target areas • Reporting on implementation of workshops that support LGUs to formulate 3R Action Plans in each county
5	Apr. 2017	• Reporting on completion of the 3R Guideline • Reporting on the 3R guideline seminar • Reporting on 3rd Training in Japan • Reporting on completion of the project

Activity 6-5 MOE, in cooperation with JET, implements workshops for supporting LGUs to formulate 3R Action Plan in each county. The targeted LGUs are assumed to be 40 LGUs in 8 counties.

Workshops for supporting LGUs to formulate 3R Action Plan in each county were conducted targeting 40 municipalities in 7 counties. 32 Officers out of 40 municipalities and officers from 7 counties participated. Some of the officers brought prepared data of their respective municipality and/or filled in forms with data in advance; however, on the other hand, some of the officers did not grasp the current situation of their own territory at all. JET judged attendance's level of understanding using a 5-point scale. 25 officers out of 32 officers obtained a score of more than 3.

Details are shown in "Annex 6.2.5 Workshop for supporting LGUs to formulate 3R Action Plan in each county".

Table 6: Conducted workshop

	Date	Name of workshop
1	19 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Gjirokaster county)
2	21 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Vlore county 1)
3	23 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Vlore county 2)
4	26 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Fier county)
5	29 Sept. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Berat county)
6	11 Oct. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Elbasan county)
7	12 Oct. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Shkoder county)
8	13 Oct. 2016	Workshop for supporting LGUs to formulate 3R Action Plan in each county 3R (at Lezhe county)

Activity 6-6 MOE, in cooperation with JET, implements on-site instructions to LGUs for their formulation of 3R Action Plan. The targeted LGUs are assumed to be 40 LGUs in 7 counties.

In-progress draft 3R action plans were sent to JET from individual municipalities after the workshop. JET evaluated each municipality on a 5-point scale based on the following: 1) the level of grasping the current situation; 2) creation of garbage flow; 3) grasping financial situation; and 4) identifying problems/points. Among the municipalities, JET decided to give preferential individual guidance to municipalities with a comprehensive evaluation of progress up to 3 until the follow-up. Even for municipalities with an evaluation of 4 or 5, and for local governments where blank portions still remained, to the extent possible JET tried to visit and give formulation support.

Table 7: Date of individual visiting

Municipality name		Date visited
1	Gjirokastër	23 Nov. 2016
2	Dropull	23 Nov. 2016
3	Libohovë	23 Nov. 2016
4	Sarandë	24 Nov. 2016
5	Konispol	23 Nov. 2016
6	Delvinë	24 Nov. 2016
7	Vlorë	24 Nov. 2016
8	Fier	13 Dec. 2016
9	Mallakastër	1 Dec.2016
10	Patos	13 Dec. 2016
11	Roskvec	1 Dec. 2016, 13 Dec 2016
12	Lushnje	6 Dec 2016
13	Divjakë	6 Dec. 2016
14	Kuçovë	1 Dec.2016
15	Ura Vajgurore	1 Dec.2016
16	Skrapar	6 Dec. 2016
17	Shkodër	12 Dec. 2016
18	Lezhë	12 Dec. 2016
19	Mirditë	12 Dec. 2016
20	Elbasan	7 Dec. 2016
21	Belsh	7 Dec. 2016
22	Gramsh	7 Dec. 2016
23	Librazhd	7 Dec. 2016
24	Peqin	7 Dec. 2016

26 municipalities prepared draft 3R action plan through individual visits.

4 Inputs

4.1 Inputs from Japanese side

Assignments of the Japanese Expert Team (hereafter JET) members are as shown in the table below.

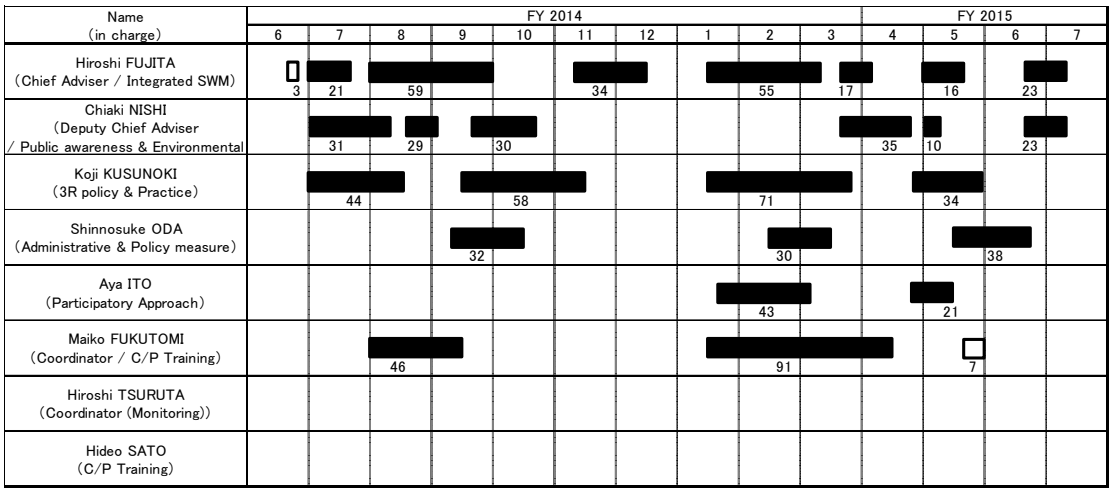
Table 8: List of Japanese expert team members

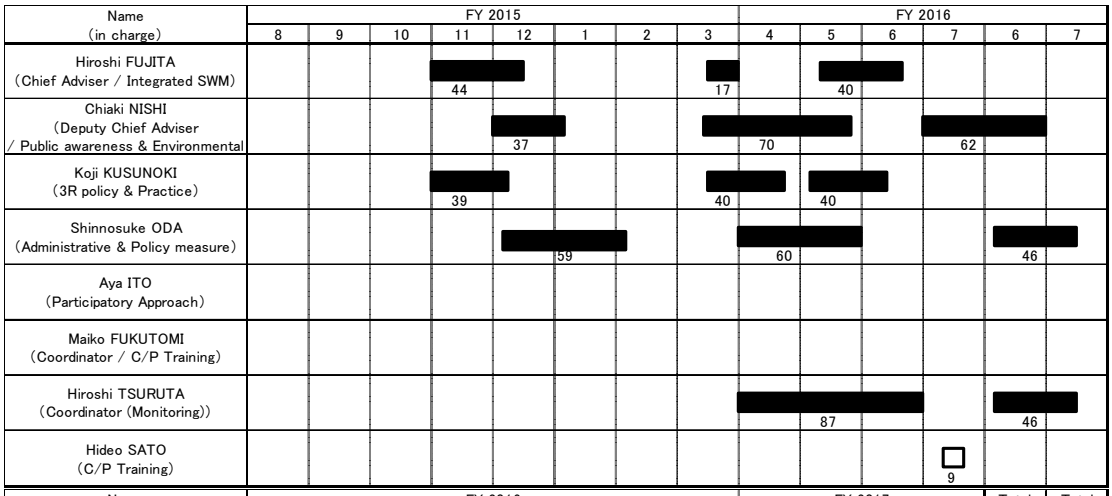
Responsibility	Name
Chief advisor / Integrated SWM	Hiroshi FUJITA
Deputy chief advisor/ Public awareness / Environmental education	Chiaki NISHI
3R policy & practice	Koji KUSUNOKI
Administrative and policy measures	Shinnosuke ODA
Participatory approach in 3R practice	Aya ITO
Coordinator / CP Training in Japan	Maiko FUKUTOMI
Coordinator (Monitoring)	Hiroshi TSURUTA
CP Training in Japan	Hideo SATO

4.1.1 Dispatch of experts

The total JET assignment period for the Project is 75.80 MM as shown in the schedule below.

Table 9: JET assignment schedule





4.1.2 Procurement and carried equipment

The Japanese side procured and carried the following items in Japan and in Albania.

Table 10: Equipment procured in Japan

Item	Product name	Quantity
Mobile GPS	GARMIN eTrex 30	2
Digital camera	Canon IXY 140	2
Handy digital video camera	Panasonic HC-V230M	1

Table 11: Major equipment purchased in Albania

Item	Product name	Quantity
Photocopy machine	SHARP AR-5618N	1 set
A4-size mono-color laser printer	HP Leaser Jet 400	1 set
A3-size inkjet color printer	HP7110	1 set
Laptop computer	DELL Satellite Pro C660	1 set
Desktop computer	HP pro	2 set
UPS	Power tree industry S850E	2 pcs
Projector	EPSON EB-S18	1 pcs

Item	Product name	Quantity
OS	MS Windows 7	3 pcs
MS Office	MS Office 2010	3 pcs
Anti-virus software	Kasperski 2014	3 pcs

4.2 Inputs from Albania side

4.2.1 Project office and equipment

The Albanian side prepared the following office space and equipment.

A Project office

Since August 2014 in the early stage of the Project, JET has rented an office space of about 80 square meters within a 10-minute walking distance from the new MOE building (relocated in August 2015).

B Equipment

The Albanian side prepared the equipment listed below.

Table 12: List of equipment prepared by Albanian side

Unit：JPY

Items	Amount			Total
	2014	2015	2016	
Office space	Equipment utilized which is owned by MOE			-
Office desk and chair				-
Bookshelves				-
Electricity	It is unclear, because payments were made based on total consumption of MOE			-
Water				-
Internet connection fee	23,750	33,250	0	57,000
Total	23,750	33,250	0	57,000

※ Internet connection fee is assumed to be the same amount as JET office. It is provided from Aug 2014 to July 2015.

4.2.2 Human resources

The persons in charge of the Project in the counterpart[4] organizations for the said period are shown in the table below.

Table 13: List of Albanian C/Ps

Organization	Name	Designation
【Main C/P】		
Ministry of Environment	Mr. Pellumb ABESHI	General Director of Environmental Policy / Project Director

[4] Counterpart (C/P)

Organization	Name	Designation
	Mr. Redi BADUNI (up to May 2016)	Director of Environment, the Directorate of General Policy and Implementation of Priorities / Project Manager
	Mr. Athanas KARAJA (from June 2016)	Director of Environment, the Directorate of General Policy and Implementation of Priorities / Project Manager
	Ms. Ledjana BOJAXHI	Head of Waste Management & Industrial Accidents Sector
	Mr. Horeshka POLIKRON	Specialist of Waste Management & Industrial Accidents Sector
Ministry of Transport and Infrastructure	Mr. Isa MEMIA	Specialist, Department of Policy in Solid Waste
【Sub C/P】		
Tirana Municipality	Mr. Namik SHIMIXHIU	Director, Directorate of Solid Waste Management
Cerrik Municipality	Mr. Servet DUZHA (up to August 2016)	Director, Department of Public Services
	Mr. Qerim BAKU (from September 2016)	Director, Department of Public Services
Vau i Dejes Municipality	Mr. Zija GERBETI	Director, Department of Public Services

5 External condition

5.1 Selection of middle-sized municipality for pilot project

5.1.1 Object of survey

This survey aims to select a middle-sized municipality or commune as an alternative pilot project site to Lezhe Municipality.

5.1.2 Selection of target LGU

A Selection procedure

The selection procedure of middle-sized LGU was divided into two stages. In the first stage, a list of candidates (hereafter referred to as longlist) was created based on the data obtained from past surveys. After discussions among JET, the Ministry of Environment (MOE) and the Prime Minister's Office, three municipalities were shortlisted as candidates. In the second stage, JICA Expert Team (JET) visited three municipalities respectively to study the current condition of municipal waste management as well as the feasibility of conducting a pilot project. The result of survey was reported to the MOE as well as the Prime Minister's office to finalize the selection of middle-sized municipality.

B The first selection stage

B.1 Selection criteria of LGUs on the longlist

The selection of LGUs at the first stage was done based on the results of National Survey on Solid Waste Management by Local Government (NSSWM) which was conducted in the period of August - November in 2014. The selection criteria of LGUs for the long list are shown as follows.

B.1.1 Scale of residential population in LGU

The scale of residential population in each LGU was considered an important criterion for selection. In order to identify the population in each LGU, the result of 2011 Census was initially referred to. However, it was found that there was a huge gap between the figure of the Census 2011 and actual residential population reported in the NSSWM. For this reason, JET has conducted telephone interviews with LGUs to confirm the actual number of residents. Thus, the residential populations obtained from these telephone interviews were used as selection criterion. With this residential population data, the average residential population in LGU was estimated at 30,112 per LGU. Excluding Tirana Municipality, which holds the largest population at 556,600 in Albania, the average population in municipality was estimated at 21,886, while the average population in a commune was estimated at 5,737. Thus, considering the average population of a LGU as well as the range of population distribution as shown in 1.2, JET decided to set the definition of middle-sized LGU as "municipality or commune which has a population of less than 50,000".

B.1.2 Municipality and commune

The existence of waste management section in LGU was also regarded as fundamental to implement a pilot project. According to the NSSWM, it was revealed that only 25 % of

communes have a waste management service section. Most notably, it was found that all communes in Albania are expected to be merged with their adjacent municipalities at the time of the territorial reform in June 2015. Therefore, considering feasibility and sustainability of pilot projects, JET decided to exclude the communes as candidates. Consequently, JET has decided to target municipalities as candidates of a pilot project for a middle-sized LGU.

B.1.3 Coverage ratio of waste collection service in the municipality

It is quite important for implementing 3R practices that the municipality provides waste collection service to most of its residential areas. Therefore, based on the NSSWM, JET has selected municipalities which have waste collection services covering more than 50% of their service areas.

B.1.4 Collection of waste collection fee

Cooperation from local residents as well as existence of sound municipal management are important in the implementation of 3R practice. Based on the belief that the payment ratio of waste collection fee represents the degree of willingness to cooperate with 3R among local residents as well as the administrative capacity of municipal waste management, JET selected the municipalities which have a high ratio in payment of waste collection fees.

B.1.5 Presence of other donors

Upon receiving the request from the MOE, JET has removed the municipalities which have already had support from donors regarding waste management issues (e.g. Tirana Municipality in Tirana District and Bushat Commune in Shkodar County have already received support from other international donors in the field of waste management) with the aim of spreading the impact and benefit of the donor aid to other regions in Albania.

B.2 Selection of target municipalities at the 1st stage

As shown in Table 14, there were 24 municipalities which comply with the criteria. After discussion with the MOE, three municipalities, namely Kucove, Cerrik, and Erseke, were shortlisted as target municipalities.

Table 14: List of target local governments

V_ID	Population 2014 (1)	New Municipal Name	Number	County Name	LGU Type (2)	Categoly	LGU Name	Waste collection fee per Household, month (3)	Coverage (4)	Donner activities in county (5)	Note
7	16,800	Kucove	13	BERAT	Municipality	2	Kucove	120.00	100%	No	Short listed
10	5,700	Polican	17	BERAT	Municipality	2	Polican	33.33	100%	No	Complied
15	5,400	Skrapar	16	BERAT	Municipality	2	Corodove	50.00	100%	No	Complied
25	9,600	Ura Vajgurore	2	BERAT	Municipality	2	Ura Vajgurore	91.66	100%	No	Complied
26	10,900	Bulqize	333	DIBER	Municipality	2	Bulqize	100.00	100%	No	Complied
43	17,600	Diber	318	DIBER	Municipality	2	Peshkopi	100.00	100%	No	Complied
54	14,400	Mat	341	DIBER	Municipality	2	Burrel	100.00	100%	No	Complied
77	11,700	Belsh	70	ELBASAN	Municipality	2	Belsh	83.67	100%	No	Complied
81	8,900	Cerrik	69	ELBASAN	Municipality	2	Cerrik	50.00	100%	No	Short listed
99	11,200	Gramsh	97	ELBASAN	Municipality	2	Gramsh	133.33	100%	No	Complied
110	9,200	Librazhd	107	ELBASAN	Municipality	2	Librazhd	83.33	100%	No	Complied
119	8,400	Peqin	91	ELBASAN	Municipality	2	Peqin	83.67	100%	No	Complied
122	7,800	Prrenjas	108	ELBASAN	Municipality	2	Prrenjas	83.33	100%	No	Complied
174	26,400	Gjirokaster	286	GJIROKASTER	Municipality	1	Gjirokaster	150.00	100%	No	Complied
181	3,500	Kelcyre	310	GJIROKASTER	Municipality	2	Kelcyre	58.00	100%	No	Complied
190	3,500	Memaliaj	300	GJIROKASTER	Municipality	2	Memaliaj	16.67	100%	No	Complied
194	7,900	Përmet	309	GJIROKASTER	Municipality	2	Permet	100.00	100%	No	Complied
201	8,300	Devoll	135	KORCE	Municipality	2	Bilisht	30.00	80%	No	Complied
208	5,000	Kolonje	139	KORCE	Municipality	2	Erseke	50.00	100%	No	Short listed
209	2,000	Kolonje	140	KORCE	Municipality	2	Leskovik	42.00	100%	No	Complied
232	27,700	Pogradec	147	KORCE	Municipality	1	Pogradec	200.00	100%	No	Complied
241	8,000	Has	170	KUKES	Municipality	2	Krume	41.67	100%	No	Complied
248	22,200	Kukes	155	KUKES	Municipality	2	Kukes	120.00	100%	No	Complied
257	7,100	Tropoje	174	KUKES	Municipality	2	Bajram Curri	83.33	100%	No	Complied

C Second selection stage

C.1 Field survey

JET conducted a field survey for shortlisted municipalities from 28 January 2015 to 5 February 2015 (3 days).

Table 15: Time schedule of field survey

Date	Municipality
28 Jan 2015	Kucove municipality
3 Feb 2015	Cerrik municipality
5 Feb 2015	Erseke municipality

C.2 Summary of field survey

As a result of the field survey, it was found that none of the three municipalities have large-scale industries. Also, people living in these municipalities gain incomes mainly from service sector and small-scale agriculture. Although every municipality provides waste collection to residential areas properly, there are several issues to be addressed before any 3R activities are initiated for example, low efficiency of waste collection service, satisfaction level of residents for waste collection service, and management of sanitary landfill site. Furthermore, the LGUs have not prepared their waste management plans, and it may be necessary to study the current waste management in the LGUs and to formulate the Plans. For the selection of the target LGU, the JET summarized the survey results with a focus on their capability to improve their solid waste management comprehensively, while considering feasibility to implement 3R activities. The following table shows the summary of field survey conducted by JET.

Table 16: Summary of field survey for medium-sized municipalities and selection priority

Candidate municipality	Kucove	Cerrik	Erseke
Population in 2014	Registered: 30,017 Resident: 22.500 Census 2011 : 12,60	Registered: 15,000 Resident: 11,000 Census 2011 : 6,668	Registered: 10,000 Resident: 7,500 Census 2011 : 3,731
Residential population after territory reform	Kuçove 16,800 Kozare 7,500 Lumas 5,300 Perondi 12,000	Cerrik 8,900 Gostime 10,800 Klos 4,300 Mollas 7,400 Shales 5,100	Barmash 600 Çlirim 500 Erseke 5,000 Leskovik 2,000 Mollas 2,000 Novosele 500 Qender Erseke 3,600 Qender Leskovik 600
	Kucove 41,600	Cerrik 36,500	Kolonje 14,800
Residential population ranking after reform	21 / 61	28 / 61	48 / 61
Applicability for middle-sized municipality	**Applicable**	**Applicable**	**Not Applicable**
Current situation of general waste management in LGU	【Management by LGU】 The income and expenditure data on waste collection as well as the volume of discharged waste were available from simple calculation. In waste management activities, however, only public awareness, which is specified as one of six activities in the national waste strategy has been conducted so far. Waste management plan was unprepared. The feasibility study on waste separation and collection was conducted by USAID. Based on	【Management by LGU】 The income and expenditure data on waste collection as well as the volume of discharged waste were available from simple calculation. In waste management activities, however, only public awareness, which is specified as one of six activities in the national waste strategy, has been conducted so far. Waste management plan was unprepared.	【Management by LGU】 The income and expenditure data on waste collection as well as the volume of discharged waste were available from simple calculation. In waste management activities, however, only public awareness, which is specified as one of six activities in the national waste strategy, has been conducted so far. Waste management plan was unprepared. The municipality has tried to produce sample solid fuels from paper and pruning waste.

Candidate municipality	Kucove	Cerrik	Erseke
	this study, the implementation of waste separation is planned.		However, it has not yet been materialized at full scale.
	【Waste collection】 Waste collection service is provided by a private company whose service covers 100% of municipal area. Waste is discharged into containers and collected by compactor trucks. Some wastes are collected by small compactor trucks in rural areas where standard–size compactor trucks cannot approach. Waste containers are located far from households in rural areas. Such an environment may reduce the satisfactory level for waste collection services. Waste collection activity starts from 3 am to avoid traffic congestion and illegal parking.	【Waste collection】 Waste in the city center is discharged into containers and collected by compactor trucks, while waste in rural areas is discharged to collection points made by concrete platform and manually loaded onto compactor trucks. Such manual loading is not recommendable in terms of working efficiency since it requires a longer loading time. A lot of wastes were scattered in the town center.	【Waste collection】 The territory of Erseke Municipality is 20 % smaller than Cerrik Municipality. Waste is discharged into containers. There is no waste scattered in the city center and the environment is kept clean. No major problems were found in the area of waste management.
	【Waste disposal site】 A disposal site is located within the municipal territory; however, there is no separation fence and its leachate remains untreated. The disposal site is located along the river and the riverbank is eroded due to the increase of discharged waste volume. The protection of	【Waste disposal site】 A disposal site, roughly 2000 m2 in size, is located within the municipal territory. The disposal site has been in use at full capacity and has a relatively short lifetime remaining. Therefore, the establishment of a new disposal site needs to be prioritized.	【Waste disposal site】 A disposal site is located 2 km away from the city center. A separation fence and gate were installed when the disposal site started operations; however after a robbery occurred it no longer remains. The disposal site was established by reusing the old quarry. Some parts

Candidate municipality	Kucove	Cerrik	Erseke
	riverbank is urgently required.	However, the majority of municipal territory is dedicated to agricultural use, which makes it difficult to establish a new disposal site. For this reason, finding a potential site is necessary within the new municipal territory after territory reform. However, there have been no concrete plans yet.	were covered by soil to maintain hygiene levels.
The method required to improve the waste management and its efficiency	Formulation of municipal waste management plan is required. Introducing door-to-door collection in rural areas instead of container collection may be needed in order to improve collection efficiency. This would increase residents' level of satisfaction for waste collection service. At the same time, waste separation and discharge at households are required to improve service efficiency. Also, in order to improve the operation of disposal site, it is necessary to expand the land area as well as maintain the riverbank.	Formulation of municipal waste management plan is required. Introducing door-to-door collection in rural areas instead of using collection points made by concrete platform is needed in order to improve collection efficiency. This would increase residents' level of satisfaction for waste collection service. Also, a reduction of waste amount to be brought into disposal site should be implemented by introducing waste separation at households as well as fostering a recyclable market. This will extend the lifetime of the disposal site.	Formulation of municipal waste management plan is required. No major problems were found in waste discharge manner, waste collection service, and transportation.
Necessity of improvement	**Medium**	**High**	**Low**
Contents of 3R pilot project expected for the municipality	Implementation of waste separation at households in rural	Implementation of waste separation at households both in	Formulation and implementation of waste management

Candidate municipality	Kucove	Cerrik	Erseke
	area. Implementation of door-to-door waste collection, instated of containers in PP areas. Reduction of waste collection frequency and collection of recyclable materials.	the city and surrounding areas. Door-to-door waste collection instated of using container in PP areas. Reduction of waste collection frequency and collection of recyclable materials in PP areas.	plan, followed by separate collection of waste. However, need for 3R practice is not so urgent since waste generation amount is relatively small.
Necessity of improvement	**High**	**High**	**Low**
Issues to be considered for implementation of 3R. - Impact of implementation - Cooperation by LGU	Cooperation with private collection company is required with a municipality bearing operation costs, etc. Mobilization of Waste pickers in the landfill for 3R is a possible option. Considering the characteristics of pilot project which will be conducted in some limited areas, it is difficult to measure effectiveness of the amount reduced in the pilot project. It is uncertain if private waste collection companies will agree to change waste collection method.	It would be easy to ask municipal cooperation on the pilot project because waste collection service is provided by municipality and also the response to the pilot project will be quick. It is required to establish a collection system for recyclables and sort them by type of materials. It is necessary to find buyers of recyclables and also study market conditions. It is easy to measure efficiency of the pilot project because it will be implemented in most of the municipal areas.	It is expected to replicate the experience of waste separation and collection in other municipalities. However, it would be difficult to do so since there are a limited number of municipalities that are similar in size to Erseke Municipality.
Total impact and effectiveness	**Medium**	**High**	**Low**
Total ranking	**2**	**1**	**3**

D Selection result

After discussion with the MOE, Cerrik Municipality was selected to be a pilot project site for medium-sized LGU. Following this, the JET revisited Cerrik Municipality on 17th February 2015 to discuss the necessary actions from the municipality and activities for the pilot project, and both parties agreed on the outline of the pilot project.

MOE requested for approval from members of JCC through a document on the selection of Cerrik as the middle-size LGU replacing Lezhe. All members, including Ministry of Transport and Infrastructure, Tirana County, Tirana Municipality, Bushat Commune, Lezhe Municipality and Lezhe County, gave their approval by 23 March.

5.2 Territorial reform and general elections of local governments

In Albania, 373 local governments have been integrated to 61 local governments for improving efficiency of local governance under the territorial reform which became effective in September 2016. Prior to this, elections for mayors and local municipal council members took place in June 2016. As the result of the reform, the new LGUs[5] have come to govern a relatively large region to include several neighboring former LGUs as its AU[6] and the new LGUs are now all called "Municipality," while before the reform the LGUs were called either Municipality (Bashkia) or Commune (Commune) depending on their sizes.

The municipalities where the Project conducts PP[7]s also experienced changes: Bushat Commune has become Vau i Dejes Municipality, integrating 6 neighboring AUs; Cerrik Municipality, although it carries the same name as before the reform, now governs 4 AUs; Tirana Municipality also retains its name from before but its area has largely expanded to include 14 AUs and becoming significantly larger than any other municipality.

Table 17: Changes in PP municipalities

Former LGU		New LGU	
Name	Population(2014*)	Name	Population (2015*)
Bushat Commune	18,096	Vau i Dejes Municipality	39,800
Cerrik Municipality	14,536	Cerrik Municipality	42,100
Tirana Municipality	556,600	Tirana Municipality	741,400

* Populations shown here for 2014 and 2015 are estimations made by the Project based on the results of Census in 2011 and INSTAT data. The details of estimation are explained in the draft 3R Guideline.

The ruling party overturned the opposition to gain new seats of the mayors in several municipal elections, and the Project Pilot municipalities were also affected and consequently new officials were in charge of the Project activities. The table below summarizes the changes seen in the pilot municipalities. It was only in January 2016 that each pilot municipality started functioning normally under the new system with the municipal budget approved.

Table 18: Consequences of the election in PP municipalities

PP municipality	Mayor	Director in charge of SWM	Officials in charge of the Project activities	Time period when discussion on PP was interrupted.
Vau i Dejes Municipality	Former Bushat mayor re-elected as Vau i Dejes mayor.	Remained the same (assigned officially in late September)	Remained the same (assigned officially in late September)	From the election period in June until the new municipal council was established in

[5] Local Government Unit (LGU)
[6] Administrative Unit (AU)
[7] Pilot Project (PP)

				September 2015
Cerrik Municipality	New mayor has been elected.	Changed (the new director has previously held the same position, and was assigned in late September)	Remained the same (assigned officially in late September)	From the election period in June until the new municipal council was established in September 2015
Tirana Municipality	New mayor has been elected.	Remained the same (assigned officially in mid-January 2016. From November till January 2016, a person temporarily assigned participated in the Project discussion.)	Remained the same (assigned officially in late January 2016)	Until November, no one was assigned and the project activity could not continue. In January 2016 after the director was re-assigned, the General Director was briefed on the PP for his approval wherein the PP got fully underway..

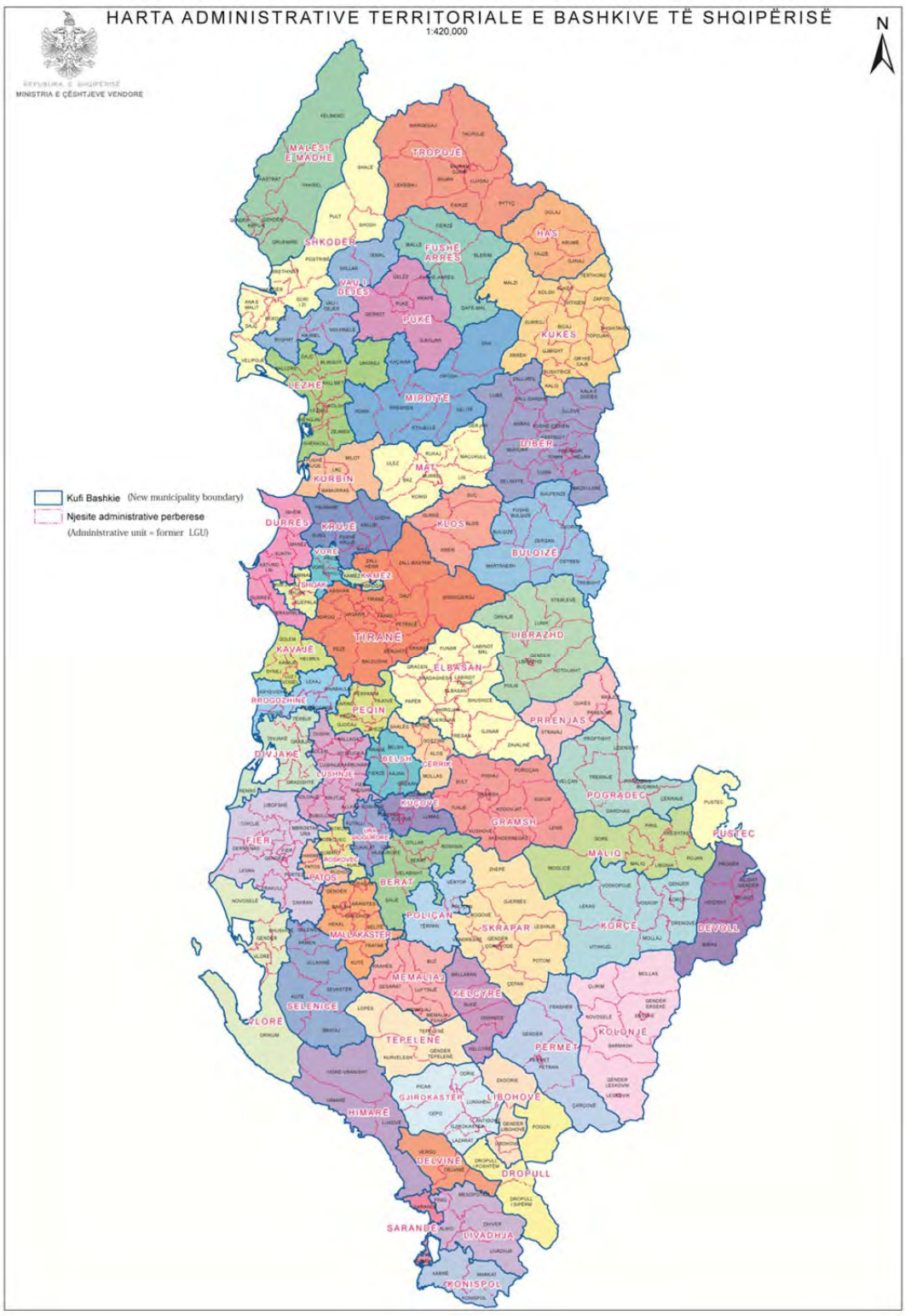


Figure 1: New municipality boundaries and their AUs after the territorial reform

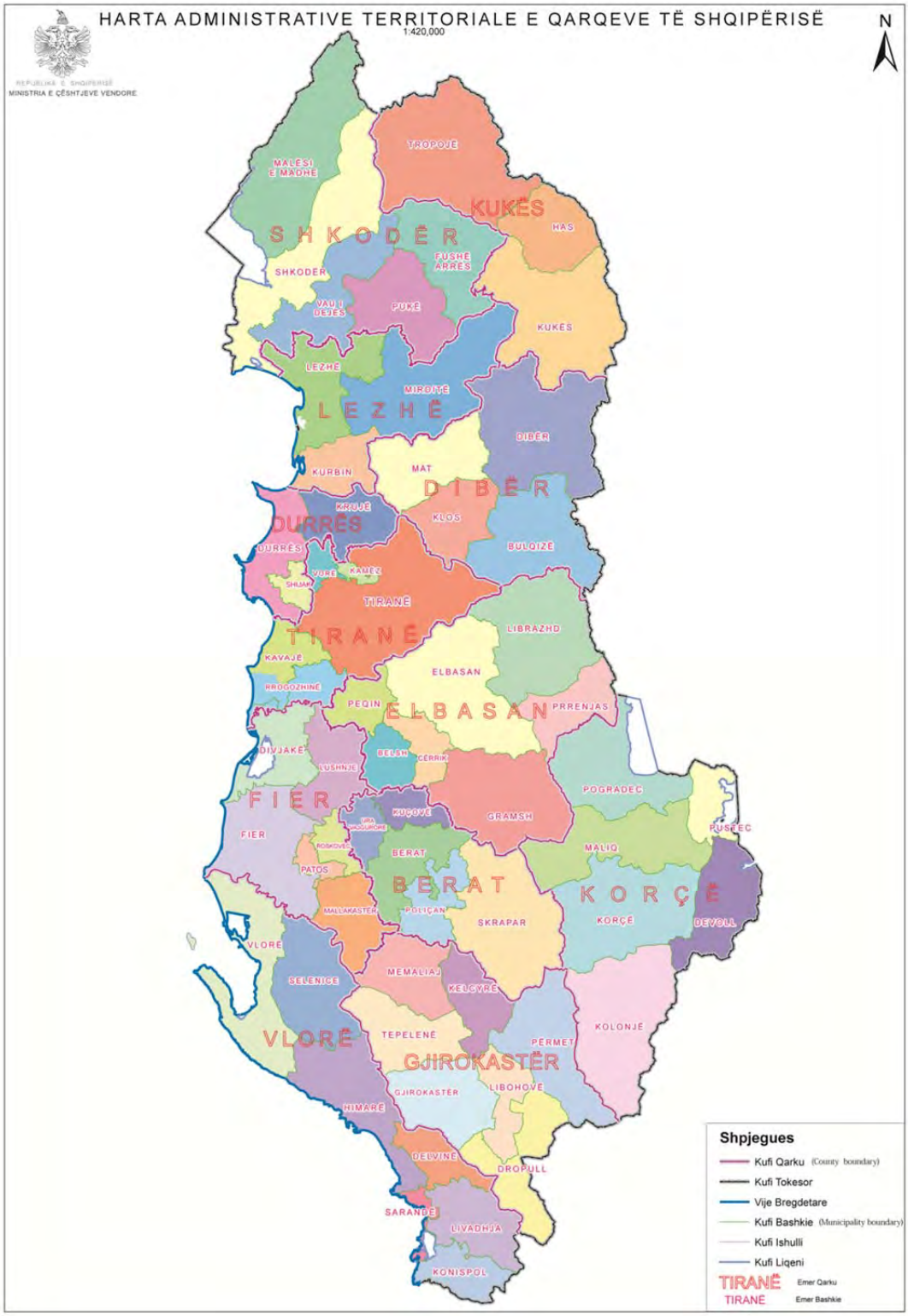


Figure 2: County boundaries to include new municipalities after the territorial reform

6 Countermeasure to suggestions which were given at terminal evaluation

A Complete the 3R Guideline and familiarize MOE C/Ps with the contents

A.1 Suggestion

The draft 3R Guideline, which includes descriptions on the 3R implementation monitoring system and revision procedures of the Guideline, should be completed well before the end of the cooperation period so that the Project can invite opinions from relevant stakeholders such as other ministries, local governments and donor agencies. The opinions should then be used to improve the quality of the Guideline. It is recommended that the 3R Guideline present as much data gathered from the field as possible since such data collected in real-world conditions is truly valuable and demonstrates the Project's strengths and comparative advantage. The data will facilitate local governments to make evidence-based decisions with regard to waste management and 3R measures.

MOE C/Ps should completely familiarize themselves with the contents as the owner of the Guideline. The Expert Team is advised to give intensive training for MOE C/Ps to deepen their understanding of the Guideline.

A.2 Countermeasure

a Monitoring system for 3R implementation and revision procedure to be included in draft 3R guideline

The monitoring, updating, and revision procedures in the draft 3R guidelines was added to section 2. Updates are made every year based on the information mentioned below. Regarding revision, it is stipulated once every 5 years.

The Draft 3R action plan included the form "monitoring sheet" that the municipality uses to report progress on its creation and implementation. In addition, it was decided to share this monitoring sheet from the municipality to the county and from the county to Ministry of the Environment.

b MOE officers shall become familiar with the 3R guidelines

The lecture for 3R guideline to help MOE officers (three persons) deeply understand the contents of the 3R guideline was held on 28 Feb. 2017 by JET. The lecture utilized 3R action plan which was prepared by municipalities. The lecture aimed to help officers gain the ability to select 3R activities and evaluate the reasonableness (rationality) and possibility of achieving 3R activities. The JET lecture also aimed to help officers gain a deep understanding of monitoring system of 3R activity and the revising method of 3R guideline.

c Explanation of 3R guideline at seminar on introducing draft 3R guideline

Following the above lecture, Mrs. Ledjana conducted the presentation for explanation of draft 3R guideline to municipality and county officers. She answered questions from participants appropriately. It is considered that the level of understanding of the MOE officers was improved.

B Prepare for the authorization of the 3R Guideline within MOE

B.1 Suggestion

MOE should start to prepare for the authorization of the 3R Guideline within MOE so that it is recognized as an important technical paper which forms a part of official policy documents on waste management.

B.2 Countermeasure

In the letter issued by JET to MOE, JET confirmed that 3R guideline will be positioned as a technical document. Following this, "draft" was deleted from the title of 3R guideline. Afterword, JET bound the 3R guideline and handed it over to MOE, then sent the 3R guideline to the persons in charge of waste management for 61 municipalities and 12 counties.

C Prepare an operation manual and make a plan for MOE for continuous support to local governments in planning and implementing 3R Action Plans

C.1 Suggestion

The Expert Team is advised to prepare an operation manual (this can be a chapter of the 3R Guideline, rather than a separate document) for organizing workshops and conducting follow-ups and individual visits to the local governments so that working-level knowledge accumulated through project activities is seamlessly shared with MOE. After the completion of the manual, the Expert Team is recommended to conduct training for MOE C/Ps using the manual.

MOE, with help from the Expert Team, should make a plan for providing continuous support to local governments in their preparation and implementation of 3R Action Plans. The plan should include not only activity schedules but also identification of roles and responsibilities of the main actors of each activity and a detailed budget plan so that necessary human and financial resources will be secured.

C.2 Countermeasure

JET prepared "manual for supporting formulation of 3R action plan in municipality" which consists of actual supporting schedule and actual expenditures based on the supporting activity conducted by JET. JET conducted a lecture to MOE officers using the above mentioned manual. JET also recommended to MOE officers to outsource work to other a third-party organization due to the shortage of officers in MOE. Therefore, it was explained that it is essential for the employees of the Ministry of the Environment to have the full knowledge of all request contents of work, and this was understood by all persons in charge.

D Organize a field visit to Cerrik Municipality during 3R Guideline Seminar in March 2017

D.1 Suggestion

It is highly recommended that the 3R Guideline Seminar to be organized in March 2017 include a field visit to Cerrik Municipality so that the participants can have hands-on experience of the good practice of door-to-door waste collection demonstrated in Cerrik. The participants' exposure to this innovative waste management system can broaden their

perspectives and prompt active discussions and knowledge exchange among them.

D.2 Countermeasure

The Cerrik Municipality tour was conducted on the second day of “seminar on introducing 3R guideline” on 10 Mar. 2017. Municipal officers, 50 people, visited Cerrik Municipality and observed bell collection. Then, exchange of opinions was held and a detailed explanation of pilot project from the Cerrik Municipality Officer was given to participants.

The seminar participants were surprised to see that the citizens were actually cooperative with the municipal collection service and that such a system could be realized. They enthusiastically asked questions to Cerrik Municipality officials concerning implementation, such as the history of their efforts, expenses and methods of the community awareness activities.
This visit has been featured by Elbasan Provincial TV station and has also been uploaded to their YouTube site (https://www.youtube.com/watch?v=pNShb8nWYpY).

7 Recommendations for overall goal to be achieved

The following recommendations were given to MOE by the Expert Team in the process of the Project.

A Utilize and revise the 3R Guideline continuously with an effective monitoring system in place

The 3R Guideline should be widely shared among concerned government institutions and donor agencies. MOE should also utilize it on a daily basis and conduct a regular review for monitoring and revising purposes. For undertaking an effective review, it is important for MOE to monitor the progress of 3R Action Plan implementation by the local governments. Therefore, it is essential for MOE to establish an effective monitoring system so that it can understand actual conditions of the local governments and take timely policy measures in response to such findings.

At the time of the project termination, MOE is prepared to share the 3R Guideline with the Environmental Inspectorate, which is under MOE supervision, so that the Environmental Inspectorate can provide guidance to local governments, which the staff of the waste sector of MOE cannot do solely by themselves. Furthermore, they are also willing to organize a workshop to gather county level officials in charge of waste management to the MOE for studying the 3R Guideline. It will be their future task to be able to effectively utilize such existing MOE networks.

B Mobilize human and financial resources for effective support to local governments

MOE is recommended to mobilize human and financial resources for proactive support activities such as workshops and guidance that are effective to facilitate creation and implementation of 3R Action Plan. In particular, it is strongly advised to conduct workshops for the five remaining regions within a few years so that all the regions in Albania have the same understanding of the 3R Guideline and 3R Action Plans. This process is important to achieve the Overall Goal within three years after the completion of the Project. When mobilizing human resources, not only MOE staff but also local consultants, non-governmental organization (NGOs) and local government staff, especially those who have experience working in the Project's pilot projects, can be utilized as resource persons as they have ample field experience. On the other hand, it can be considered that MOE officials have developed a technological foundation for supporting local government officials for 3R Action Plan formulation and implementation; however, the problems of local governments are diverse. In order to deal with each of these problems, their instructing capacity will be cultivated by experience through practice; therefore, it is desirable to build more practical experience.

C Actively play a role as a "knowledge-hub"

It has been revealed during the evaluation study that local government units started to exchange experiences and share knowledge on good practices as they were given networking opportunities among one another at various occasions such as workshops and seminars organized by the Project. There is a growing realization that MOE is well positioned to work as the country's knowledge-hub, which accumulates useful knowledge and promotes linkages among local governments in knowledge and experience sharing. Recognizing this potential

role, MOE is encouraged to provide local governments and other related institutions with various opportunities where knowledge exchange is realized.

Seminars, conducted by individual donors, have thus far served as such occasions for knowledge and experience exchange. In addition to that, MOE already has a website. Therefore, for example, if MOE can simply prepare or obtain data they will be able to disseminate this information via their website without delay, such as in the case of posting of the Project's newsletters. It will be the first step to becoming a knowledge-hub if MOE can organically combine these and transmit the useful information on their own initiative.

Annex

Contents

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1 Activity related with Output 1

1.1 National Survey on Solid Waste Management by LGUs

1.1.1 Survey overview

A. Purpose of the Survey

This nationwide survey was conducted to find out the following: i) current involvement of local governments (municipalities and communes) and Counties in waste management; and ii) current waste management practices in each municipality/commune and county in the Republic of Albania.

B. Survey target

The Survey was conducted targeting 12 Counties and 373 local governments (municipality: 65, commune: 308).

The interview was conducted to the target organizations. In the case that the target organization has assigned a person in charge of waste management, the interview was conducted with the person in charge. And in the case that the target organization has not assigned anyone to be in charge of the waste management, the interview was conducted with the head of the local government.

C. Survey methodology and period of the Survey

C.1 Survey methodology

Interviews were conducted based on the questionnaire format through telephone calls or emails to the persons in charge. Where detailed information is available, the information was acquired in hardcopy or in softcopy through emails. Data collection was conducted by the local contractor, and the analysis of the data was conducted by the Japanese Expert Team.

C.2 Period of the Survey

The Survey was conducted from 2nd September, 2014 till 15th November, 2014.

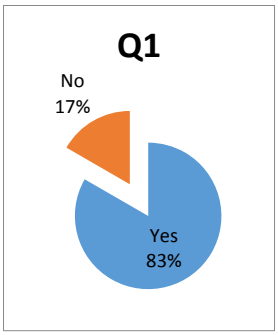
1.1.2 Survey results: county

A. Progress of implementation of National Waste Plan (2010 - 2025)

A.1 Answers

Q1 Has your county regulated the waste management plan in accordance with the National Waste Management Plan?

	Q1
Yes/Po	10
No/Jo	2
Total/ Gjithsej	12



Q2 Has your county conducted the feasibility study for 3 bin collection system in accordance with the National Waste Management Plan?

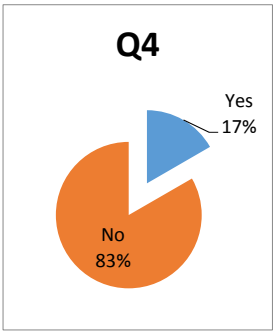
	Q2
Yes/Po	0
No/Jo	12
Total/Gjithsej	12

Q3 Has your county conducted the public awareness raising campaign in accordance with the National Waste Management Plan?

	Q3
Yes/Po	0
No/Jo	12
Total/ Gjithsej	12

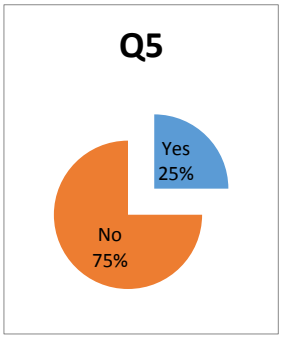
Q4 Has your county formulated and enacted the regulation on incentives for waste reduction in accordance with the National Waste Management Plan?

	Q4
Yes/Po	2
No/Jo	10
Total/ Gjithsej	12



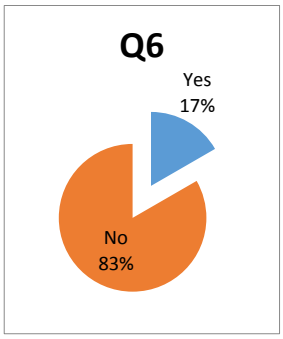
Q5 Has your county developed and selected the 3R priority project in accordance with the National Action Plan?

	Q5
Yes/Po	3
No/Jo	9
Total/ Gjithsej	12



Q6 Has your county formulated other regulations or laws concerned with waste management?

	Q6
Yes/Po	2
No/Jo	10
Total/ Gjithsej	12



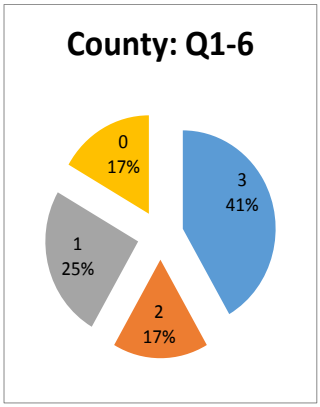
A.2 Implementation status

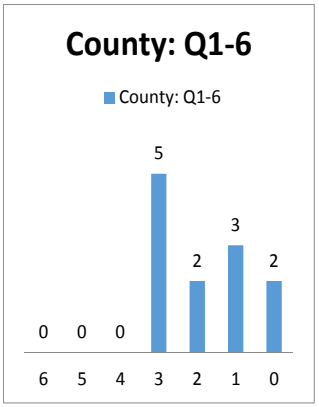
A.2.1 Implementation status at county level

Number of counties that answered "Yes" (= implemented in the past, currently implementing) to Q1-6.

In terms of implementation status at the county level, 5 counties answered "Yes" to 3 items out of 6 items (highest score), 5 counties answered "Yes" to 1-2 items, and 2 counties answered they had not implemented any items.

Number of "Yes" to Q1-6	Number of county in the range
6	0
5	0
4	0
3	5
2	2
1	3
0	2
Total/Gjithsej	12

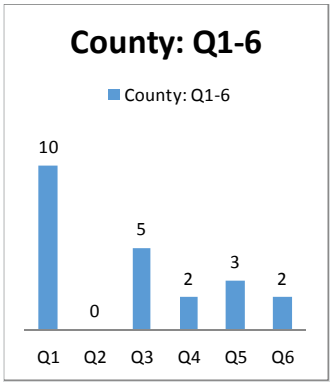




A.2.2 Items Implemented at county level in accordance with the National Waste Strategy / Plan

The largest number of "Yes" answers was obtained from Q1: Regulation of waste management plan. While according to the information from a different source which the Expert Team obtained, none of the Area Waste Plans submitted by the counties has been approved so far.

	Number of Counties answered "Yes" to Q1-6
Q1	10
Q2	0
Q3	5
Q4	2
Q5	3
Q6	2



B. Waste management status

B.1 Organization at the county level

Regarding the question asking if there is an organization in charge of waste management within the county, 5 Counties answered "Yes".

Q7.1	county
Yes/Po	5
No/Jo	7
Total/ Gjithsej	12

1.1.3 Survey Result: Local government units (municipality, commune)

The 352 local government units out of 373 local governments provided answers. The breakdown is as follows:

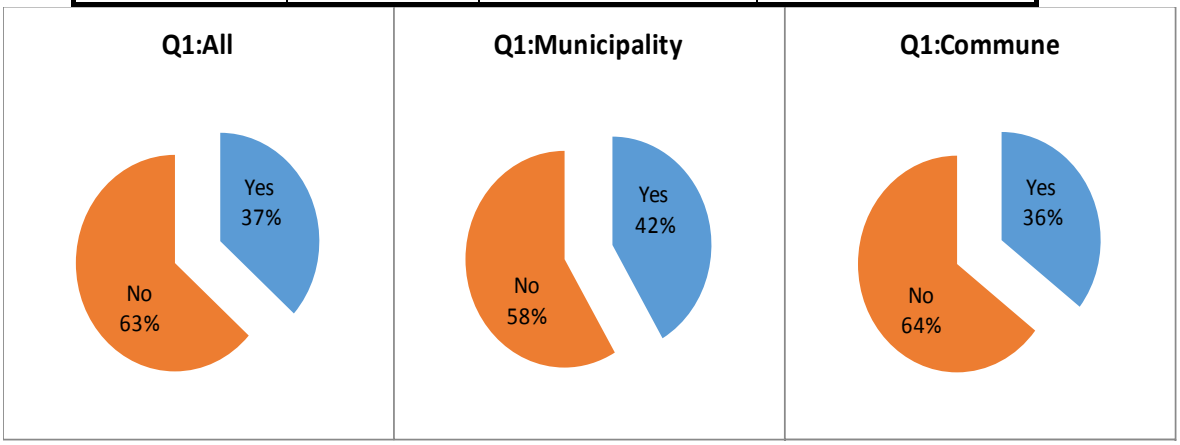
Type of local government unit	Total	Answered	No answer
Municipality	65	65	0
Commune	308	287	21
Total	373	352	21

A. Progress of implementation of National Waste Plan (2010 - 2025)

A.1 Answers

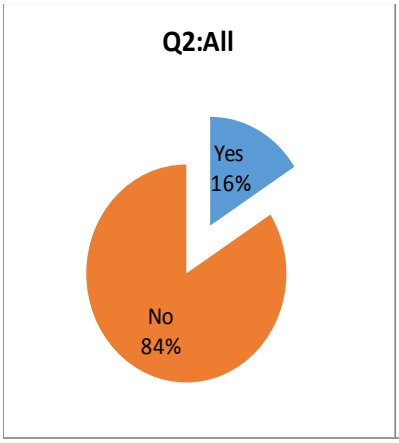
Q1 Has your municipality/commune regulated the waste management plan in accordance with the National Waste Management Plan?

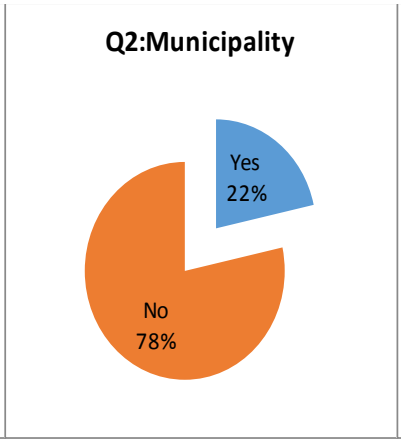
Q1	All	Municipality	Commune
Yes/Po	129	27	102
No/Jo	223	38	185
Total	352	65	287

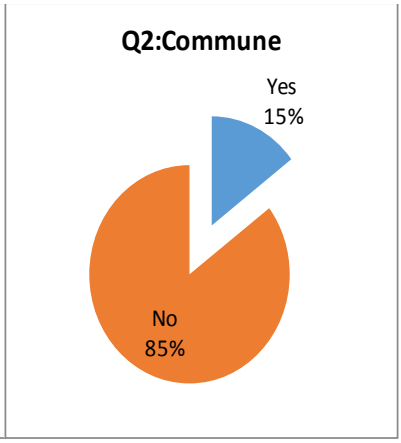


Q2 Has your municipality/commune conducted the feasibility study for 3 bin collection system in accordance with the National Waste Management Plan?

Q2	All	Municipality	Commune
Yes/Po	56	14	42
No/Jo	296	51	245
Total	352	65	287

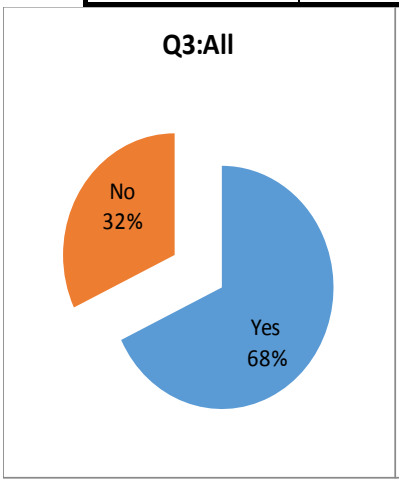


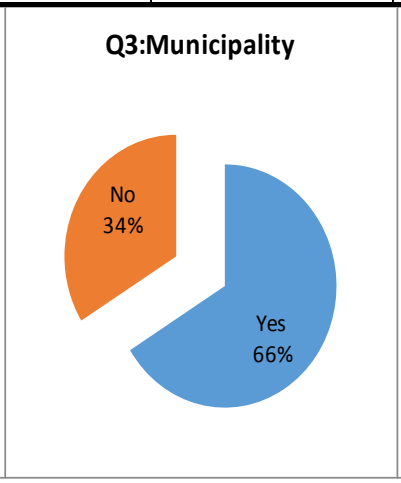


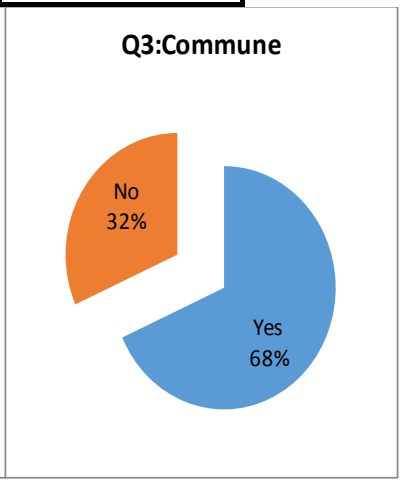


Q3 Has your municipality/commune conducted the public awareness raising campaign in accordance with the National Waste Management Plan?

Q3	All	Municipality	Commune
Yes/Po	239	43	196
No/Jo	113	22	91
Total	352	65	287

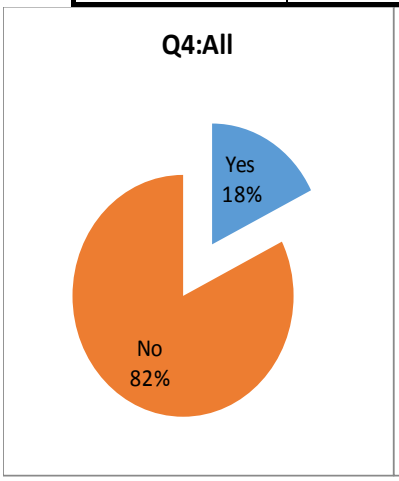


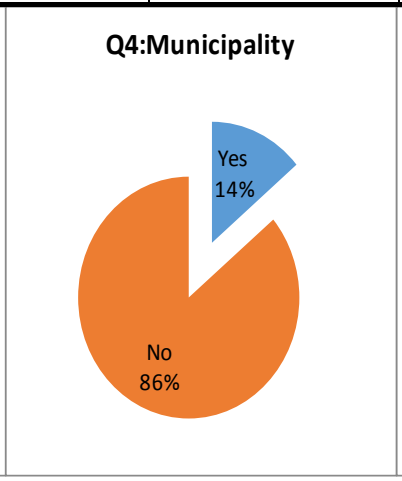


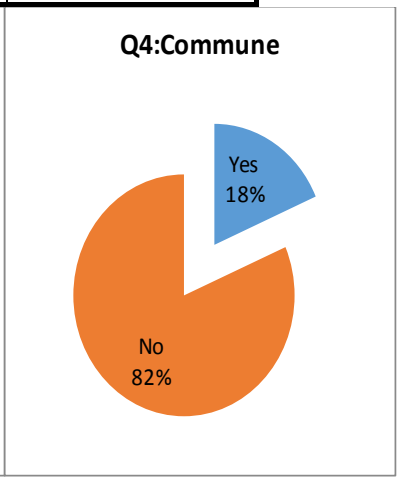


Q4 Has your municipality/commune formulated and enacted the regulation on incentives for waste reduction in accordance with the National Waste Management Plan?

Q4	All	Municipality	Commune
Yes/Po	62	9	53
No/Jo	290	56	234
Total	352	65	287

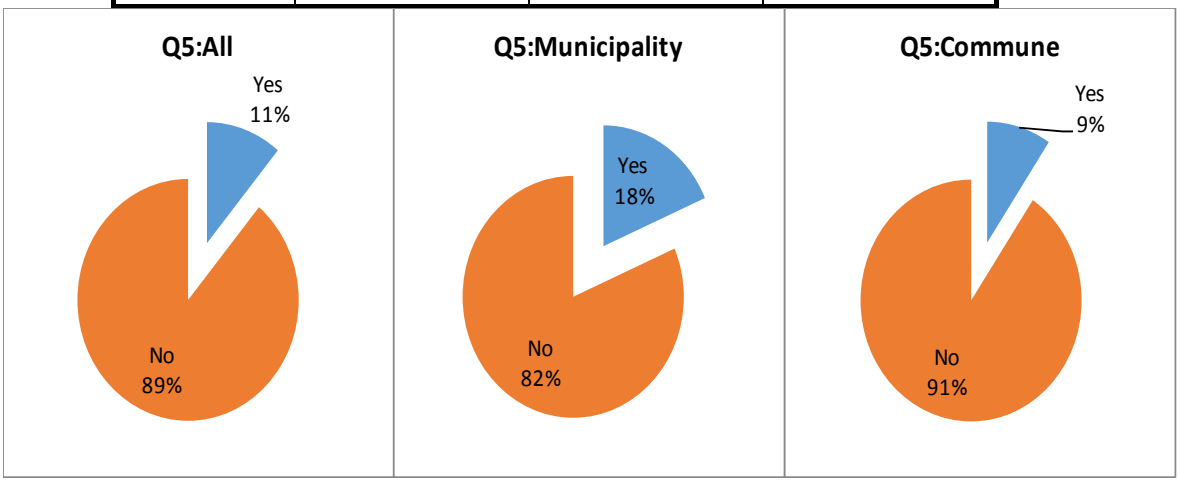






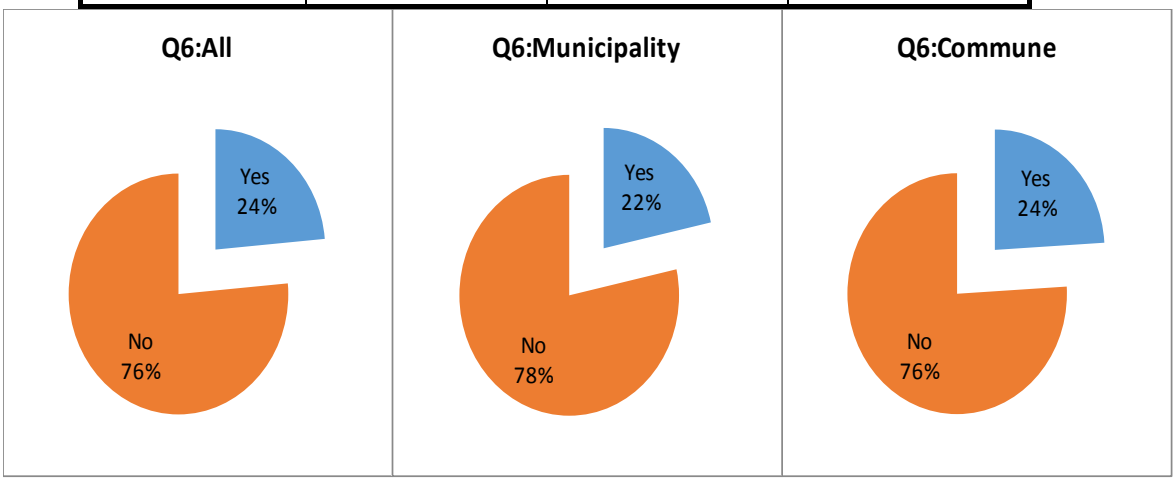
Q5 Has your municipality/commune developed and selected the 3R priority project in accordance with the National Action Plan?

Q5	All	Municipality	Commune
Yes/Po	39	12	27
No/Jo	313	53	260
Total	352	65	287



Q6 Has your municipality/commune formulated other regulations or laws concerned with waste management?

Q6	All	Municipality	Commune
Yes/Po	83	14	69
No/Jo	269	51	218
Total	352	65	287



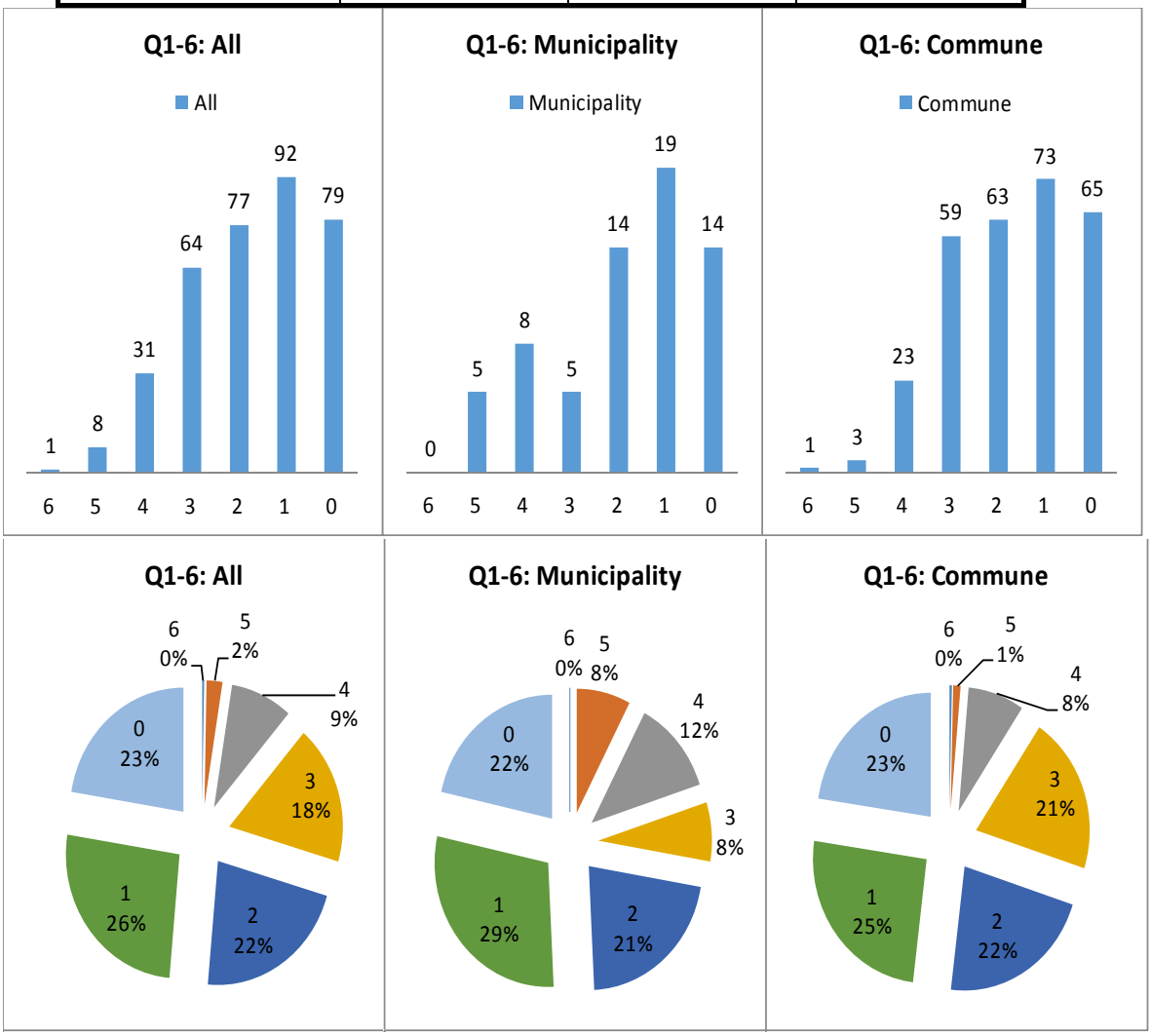
A.2 Implementation status

A.2.1 Implementation status at local government level

Number of items each local government answered "Yes" (= implemented in the past, currently implementing)" to question (Q1-6) was as follows:

Number of items answered "Yes"	Number of local government in the range		
	All	Municipality	Commune
6	1	0	1
5	8	5	3
4	31	8	23
3	64	5	59
2	77	14	63
1	92	19	73

0	79	14	65
Total	352	65	287

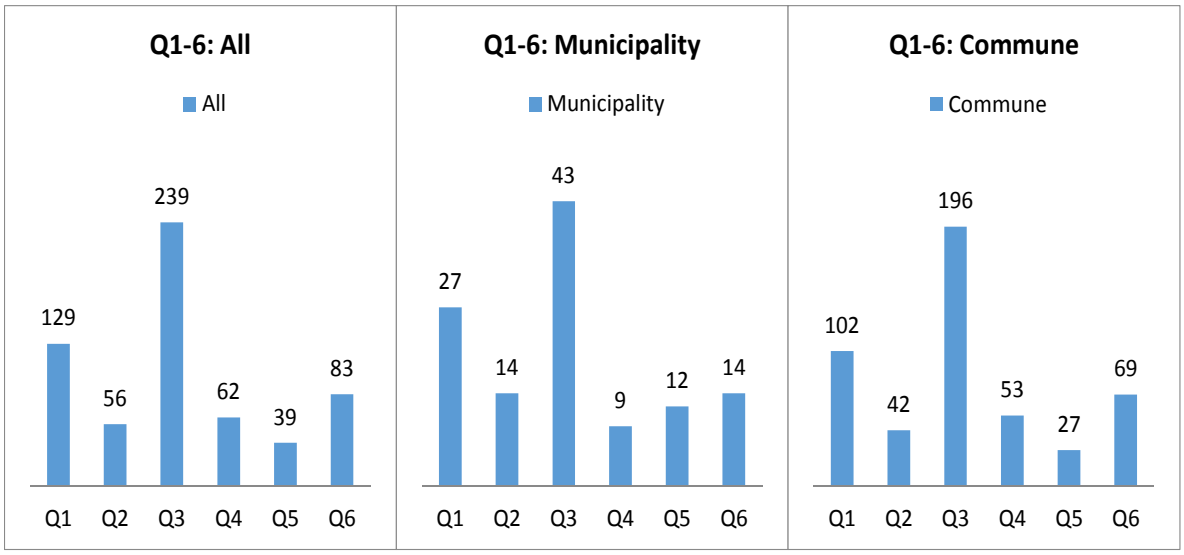


In terms of implementation status at the local government level, 273 local governments (77 %) answered "Yes" to implementing at least 1 item out of 6 items (Q1-6), while 181 local governments (51%) answered "Yes" to multiple items.

A.2.2 Items implemented at local government level in accordance with National Waste Strategy / Plan

Number of local governments that answered "Yes" (= implemented in the past, currently implementing) to each question (Q1-6) was as follows:

Yes/Po	All	Municipality	Commune
Q1	129	27	102
Q2	56	14	42
Q3	239	43	196
Q4	62	9	53
Q5	39	12	27
Q6	83	14	69



The largest number of "Yes" answers was obtained for Q3: Implementation of public awareness campaign (239 local governments or 68 %). While the least number of "Yes" answers to Q5: development/ selection of 3R priority project (39 local governments or 11 %)

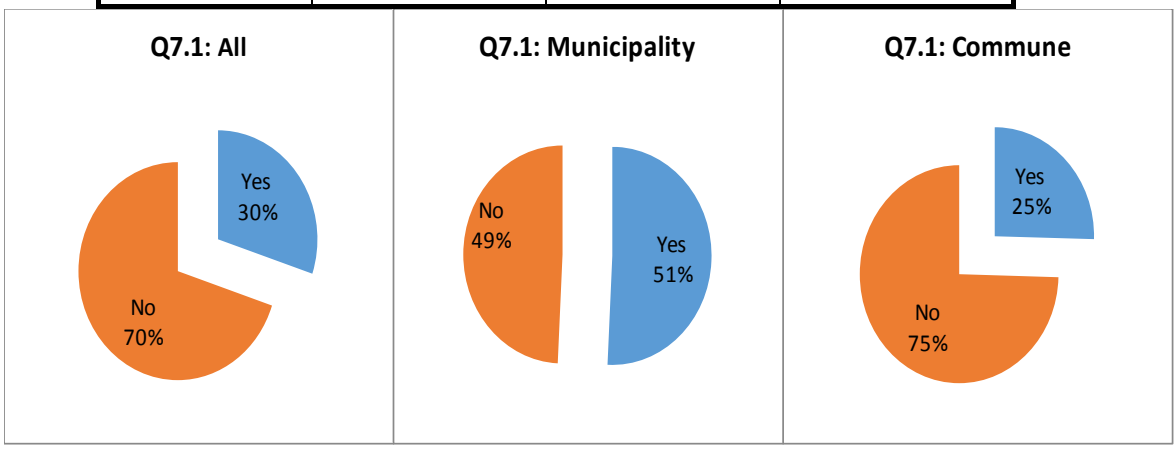
B. Waste management status

B.1 Organization at local government level

Q7.1 The municipality/commune's organization structure concerned about waste management (expected to be department of environmental management)

Only 30 % of local governments answered that they have internal organizations in charge of or related to waste management / environmental management, while 70 % answered they do not.

Q7.1	All	Municipality	Commune
Yes/Po	106	33	73
No/Jo	246	32	214
Total	352	65	287



Q7.2 List of officers (Name of officer does not need to be specified)

Q7.2 (a) List of officers

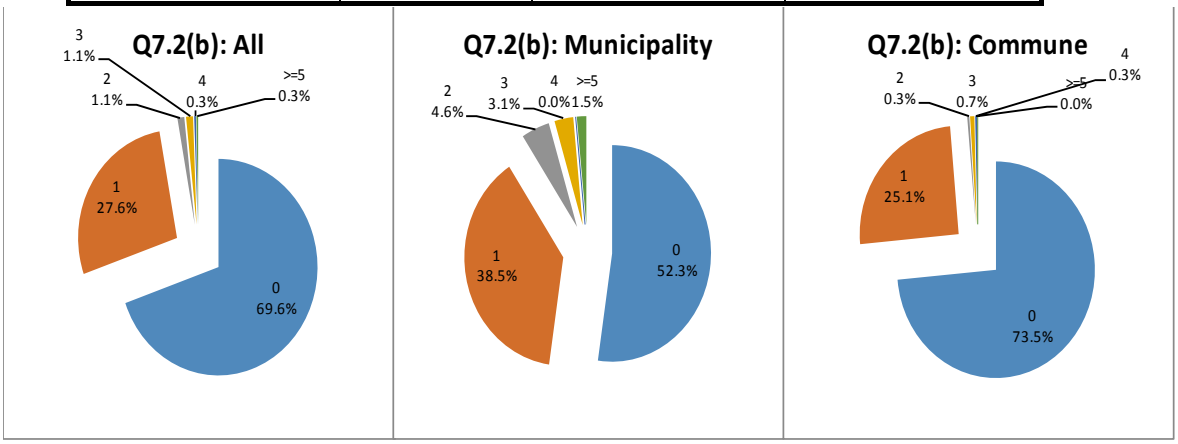
Some local governments listed waste management officers, such as 'service director', or 'environmental specialist'. However, many local governments named worker level personnel such as 'service employee'.

Q7.2 (b) Number of officers

About 70 % of local governments answered they do not have dedicated officers for waste

management. Only a few municipalities allocate more than two officers for waste management.

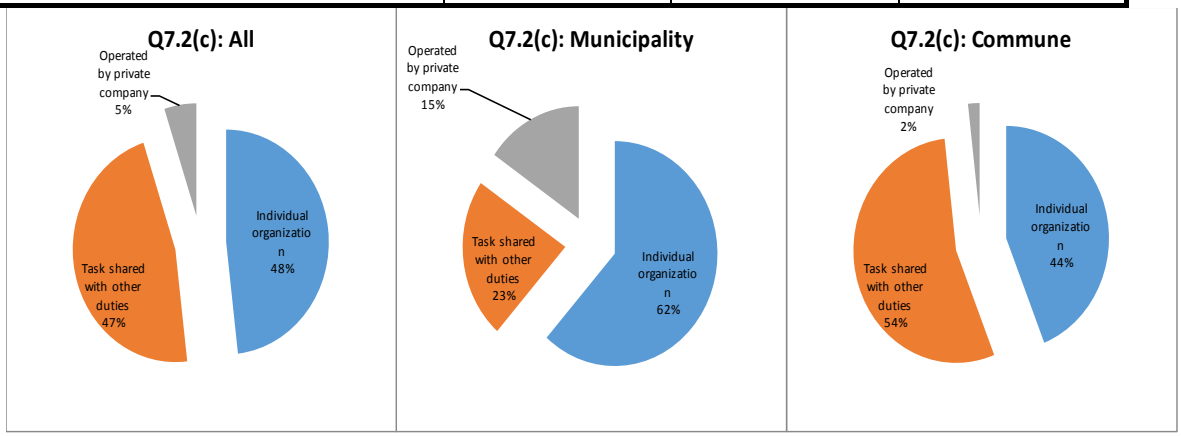
Q7.2(b) Number of officer	All	Municipality	Commune
0	245	34	211
1	97	25	72
2	4	3	1
3	4	2	2
4	1	0	1
>=5	1	1	0
Total	352	65	287



Q7.2(c) Comments

Out of the internal organizations in charge of or related to waste management / environmental management, 48 % were also in charge of other public services. Some local governments answered that they consign those operations to private companies.

Q7.2(c)	All	Municipality	Commune
Individual organization	105	32	73
Task shared with other duties	102	12	90
Operated by private company	11	8	3
Total	218	52	166



B.2 Waste generation rate and waste composition

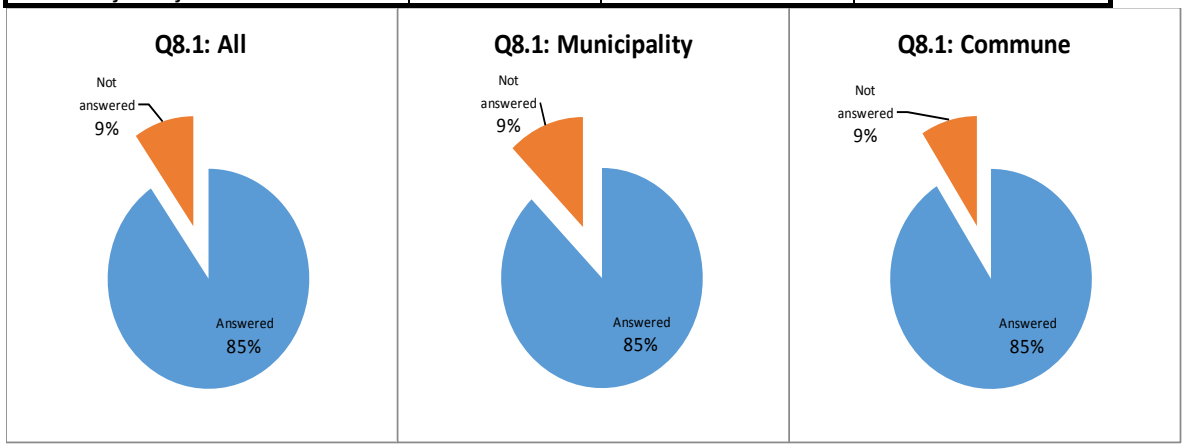
Q8-1 Please specify basic information in the municipality/commune in the table below. If no information is available, please fill in "N/A".

Urban/Rural	Name of area	Population	Number of Households	Remarks
Urban				

Urban/Rural	Name of area	Population	Number of Households	Remarks
	Sub-total			
Rural				
	Sub-total			
Total				

For questions on demographic characteristics (population, number of households and area information), 85 % of the local governments answered as follows:

Q8.1	All/Të gjitha	Municipality/Bashki	Commune/Komuna
Answered	318	57	261
Not answered/ Nuk u përgjigjën	34	8	26
Total/ Gjithsej	352	65	287



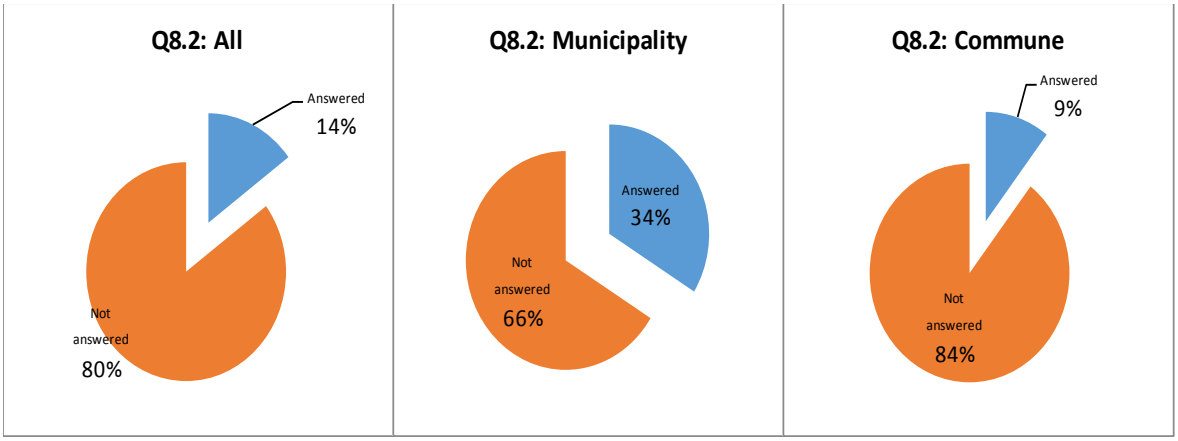
Q8-2 Please specify waste generation rate in the municipality/commune. If no information is available, please fill in "N/A".

No.	Households (kg/person/day)	Business entities (such as stores) (kg/organization/day)	Public organizations (kg/organization/day)	Remarks
1				

Only 14 % of the local governments answered waste generation rate per household/ business entity. The figure was lower for Communes with an answer rate of 9 %.

Among those that answered, the reported waste generation rate was 500- 1,000 g/person/day, which was larger than the figure of 350-400 g/person/day acquired from the Expert Team's survey.

Q8.2	All	Municipality	Commune
Answered	52	22	30
Not answered	300	43	257
Total	352	65	287

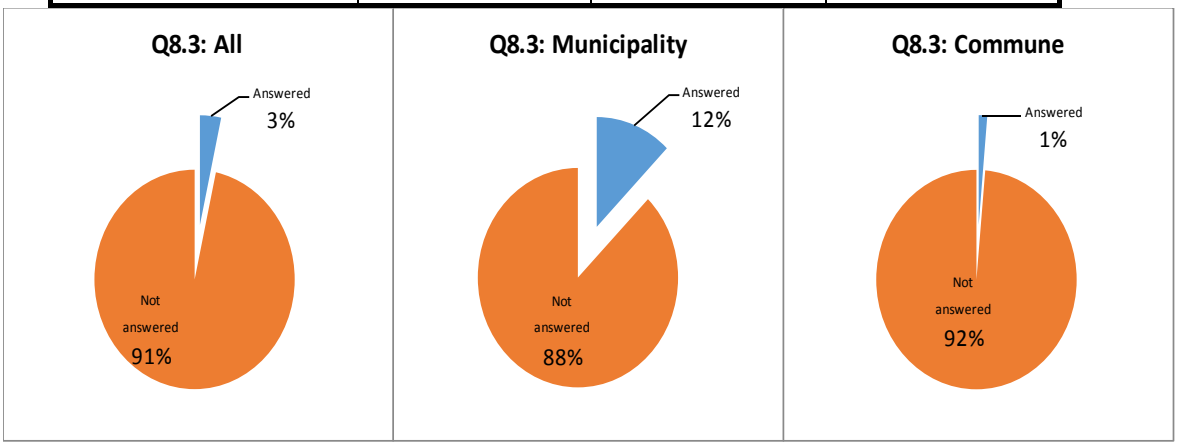


Q8-3 Please specify waste composition rate in municipality/commune. If no information is available, please fill in “N/A”.

Kitchen Waste	%
PET-bottle	%
Glass-bottle	%
Plastic (Low density)	%
Plastic (High density)	%
Paper	%
Card-board	%
Textile	%
Wood and Grass	%
Metal	%
Others	%

Only 12 local governments (3 %) answered about waste composition.

Q8. 3	All	Municipality	Commune
Answered	12	8	4
Not answered	340	57	283
Total	352	65	287



B.3 Waste collection and transportation service

Q9 Please provide information for the questionnaire sheet below, if no information is available please fill in "N/A"

Q9-1 Waste collection service provider

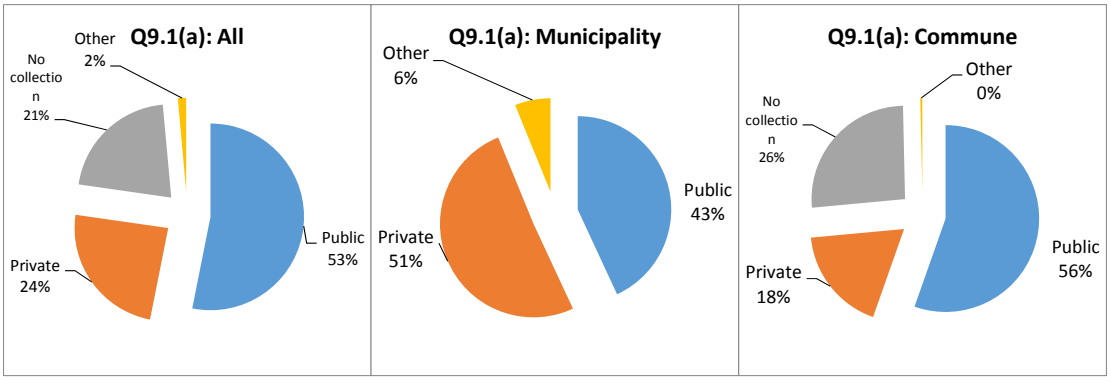
No.	Service Provider (a)	Number of Collection Vehicle possessed (b)	Service area (c)	Remarks

1				

Q9.1(a) Waste collection authority

Out of all the local governments that answered, 272 local governments (77 %) had waste collection service. Among them, 68 % was provided mainly by public entities, and 31 % was provided mainly by private entities. Of the 75 local governments (21 %) which had no waste collection services, all were Communes.

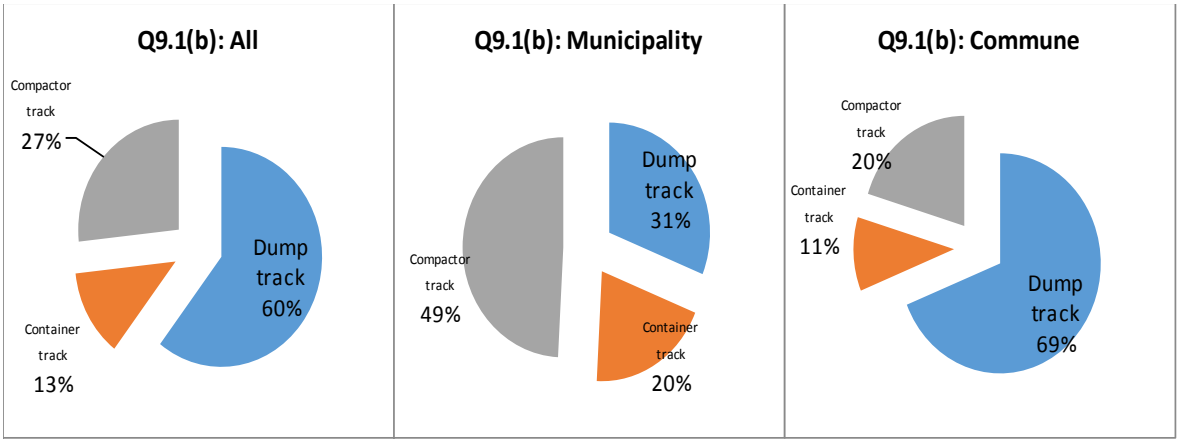
Q9.1(a)	All	Municipality	Commune
Public	187	28	159
Private	85	33	52
No collection	75	0	75
Other	5	4	1
Total	352	65	287



Q9.1(b) Major waste collection equipment

Among the 272 local governments that had waste collection services, 60 % used dump trucks and 40 % used container trucks or compactor trucks as the major waste collection equipment (when multiple types of waste collection equipment were used in a local government, the equipment which the local government had the highest number of (in possession) was considered as the major collection equipment in the local government).

Q9.1(b)	All	Municipality	Commune
Dump truck	165	19	146
Container truck	35	12	23
Compactor truck	73	30	43
No collection	79	4	75
Total	352	65	287



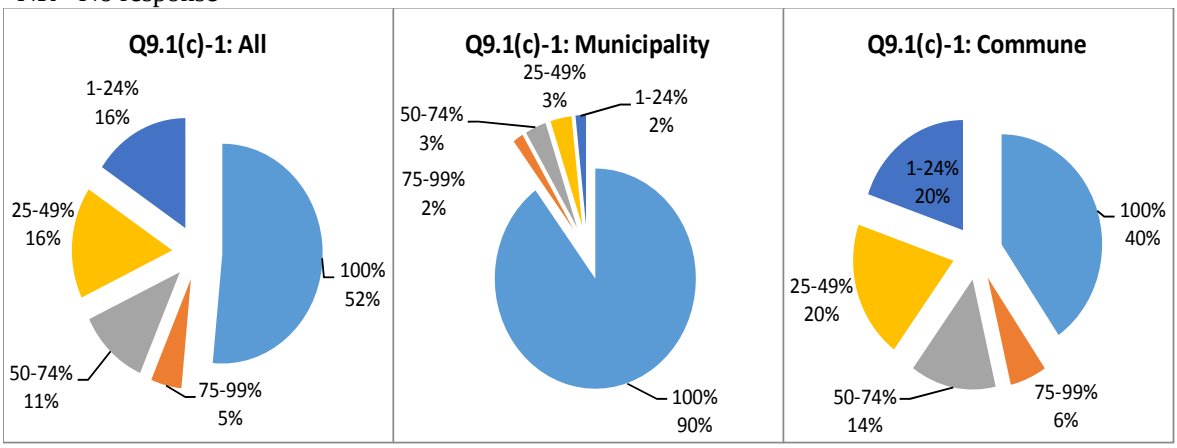
Q9.1(c) Coverage of waste collection

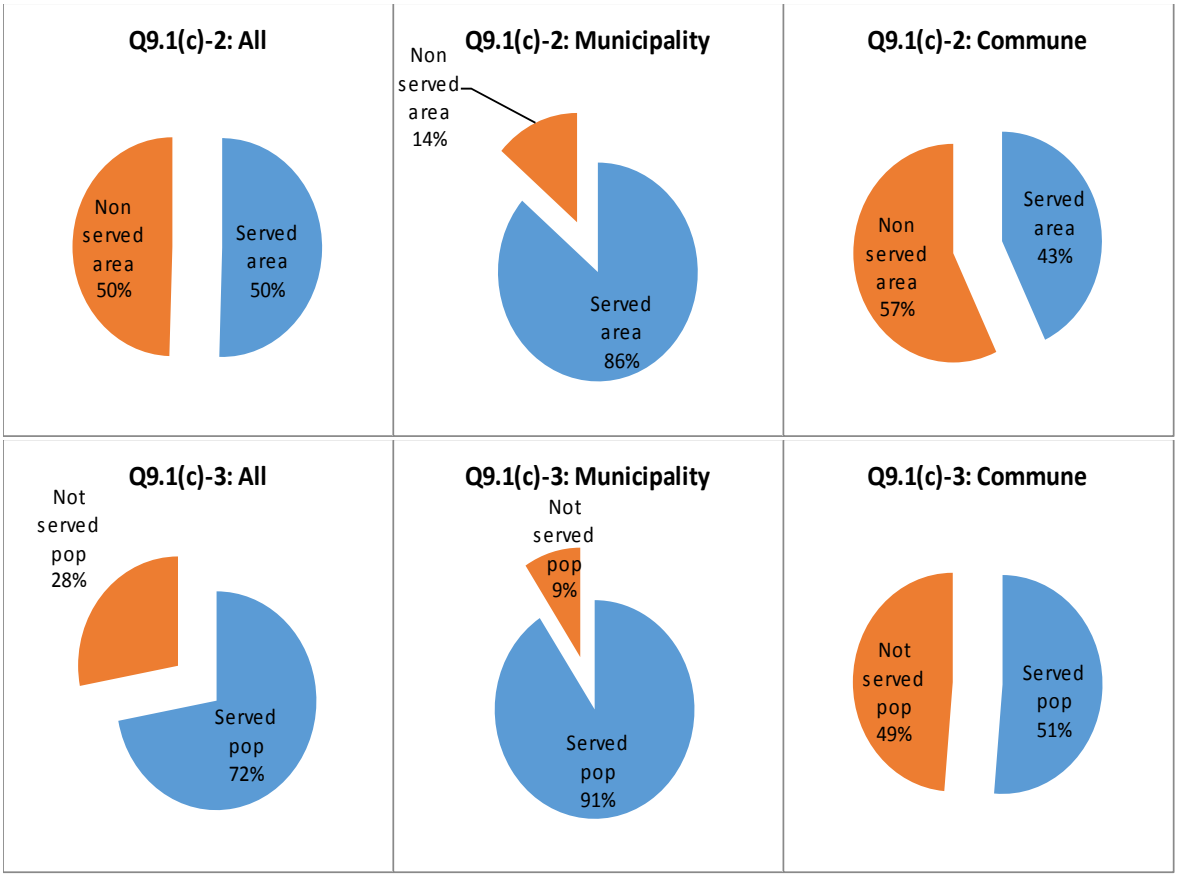
Among the 272 local governments that had waste collection services, the waste collection services coverage ratio (household basis) in each local government was 50 % on average. The same figure was 86 % for the average of Municipalities, which was higher than that of Communes (42 %).

On a population number basis, the service coverage rate was 91 % for Municipalities and 51 % for Communes.

Q9.1(c)	All	Municipality	Commune
100%	135	53	82
75-99%	13	1	12
50-74%	30	2	28
25-49%	43	2	41
1-24%	41	1	40
No	90	6	84
NR*	21	0	21
Total	373	65	308
Served area	50.5%	86.3%	42.9%
Non served area	49.5%	13.7%	57.1%
Served population	2,017,604	1,334,900	682,703
Non served population	782,534	135,919	646,616
Served population ratio	72.1%	90.8%	51.4%
Non served pop ratio	27.9%	9.2%	48.6%

*NR= No response





Q9-2 Waste collection service fee

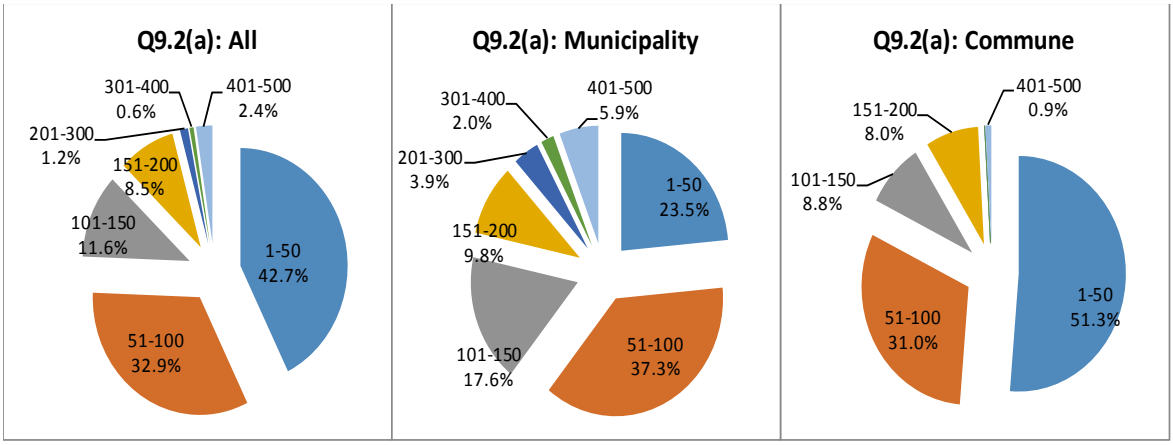
No.	Municipality /Commune	From Residents		From Business entities		Others
		Leke per Household, per month (a)	Method of collecting money (b)	Leke per Organization, per month (c)	Method of collecting money (d)	
1						

Q9.2(a) Tariff for HH

Among the 262 local governments that answered the tariff question, 62 % provided information on the amount of service tariff collected from each household. Of the local governments collecting a household tariff 75.6 % was less than 100 Leke/month/household, and the tariff charged by Communes was cheaper relative to Municipalities.

Note that although 37 % of the local governments answered that they do not collect tariffs, there is a possibility that the local governments did not recognize it separately because waste management fee was sometimes collected as a part of tax and other public service fees.

Q9.2(a)	All	Municipality	Commune
No tariff collected	98	8	90
1-50	70	12	58
51-100	54	19	35
101-150	19	9	10
151-200	14	5	9
201-300	2	2	0
301-400	1	1	0
401-500	4	3	1
>500	0	0	0
Total	262	59	203

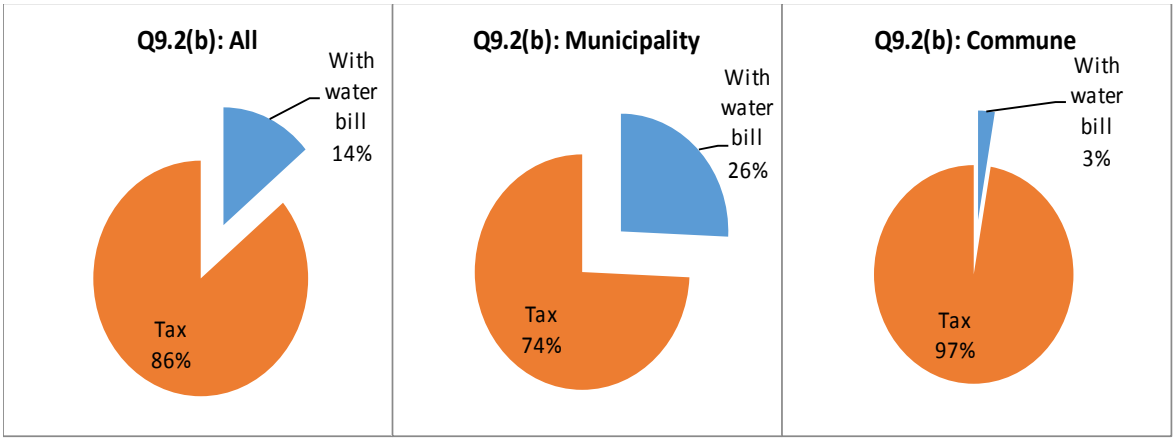


Q9.2(b) Collection method for HH

For collection method of tariffs, 14 % of the LGUs (local government units) collecting tariffs collected them together with the water bill, and 86 % were collected together with local tax.

Q9.2(b)	All	Municipality	Commune
Together with water bill	10	9	1
Together with Tax	62	26	36
NA*	92	15	76
Total	164	51	113

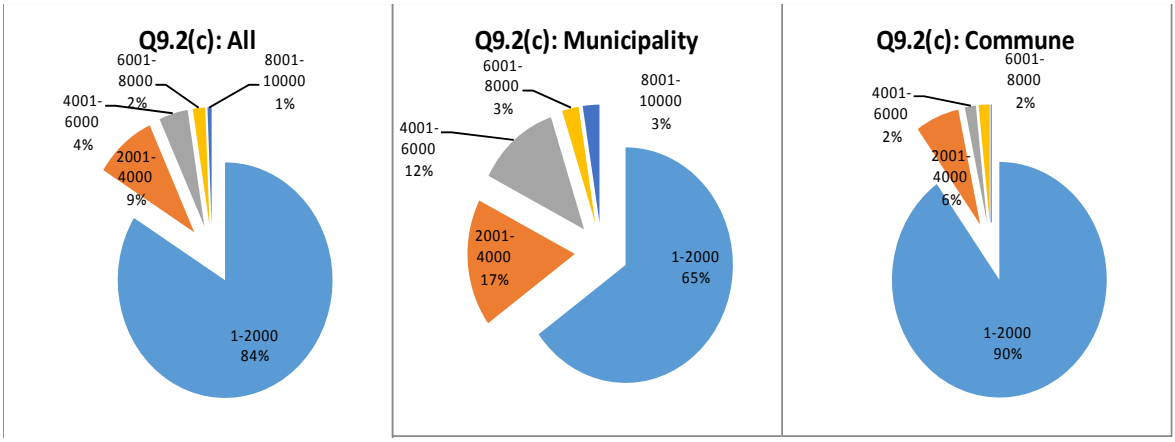
*NA= No Answer



Q9.2(c) Tariff for Business

Among the 262 local governments that answered the tariff question, 61 % provided information on the amount of service tariff collected from each business entity. Per business entity tariff was less than 2,000 Leke/month/entity for 84 % of the local governments collecting tariffs.

Q9.2(c)	All	Municipality	Commune
No tariff collected	101	19	82
1-2000	135	26	109
2001-4000	15	7	8
4001-6000	7	5	2
6001-8000	3	1	2
8001-10000	1	1	0
>10000	0	0	0
Total	262	59	203

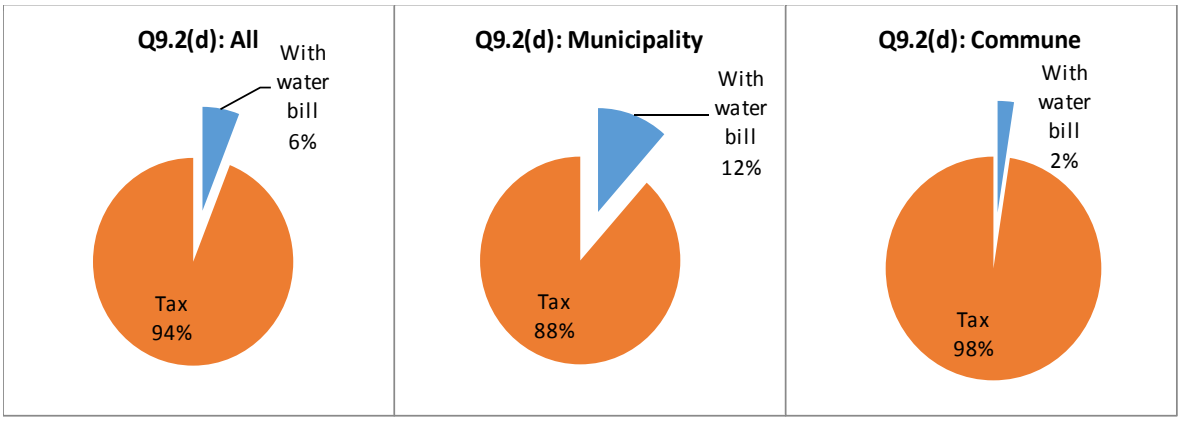


Q9.2(d) Collection method for Business

For collection method of tariffs, 94 % of local governments answered that the tariffs were collected together with local tax.

Q9.2(d)	All	Municipality	Commune
Together with water bill	4	3	1
Tax	63	23	40
NA*	94	14	80
Total	161	40	121

*NA= No Answer



B.4 Illegal dumping of waste

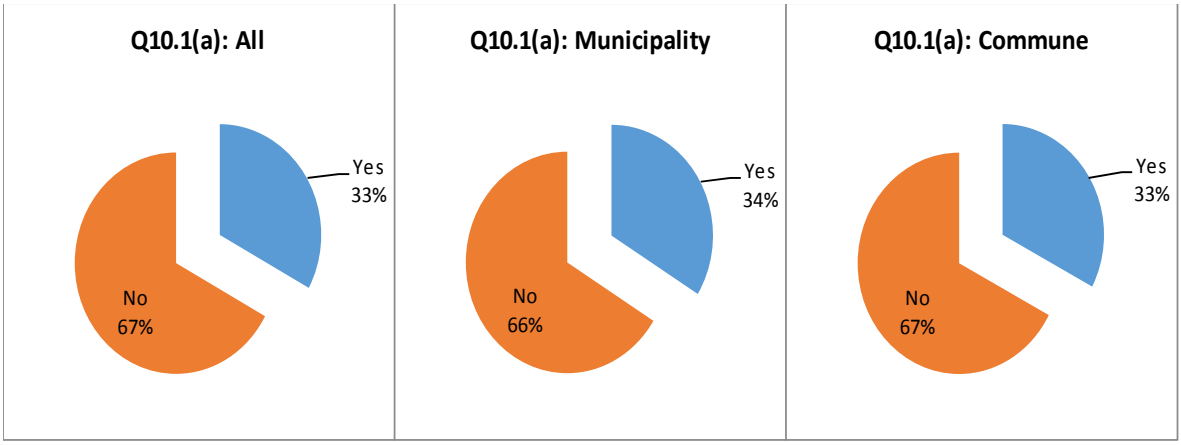
Q.10.1 How many illegal dumping sites have been observed within the municipality/commune's administrative boundary? If no information is available, please fill in "N/A".

No	Illegal dumping site (a)	Location (b)	Area (m2) (c)	Amount of waste accumulated (m3) (d)	Remarks
1					

Q10.1(a) Illegal dumping

Among the the local governments, 33 % answered that there was an illegal dumping site within the area of their administrative boundaries.

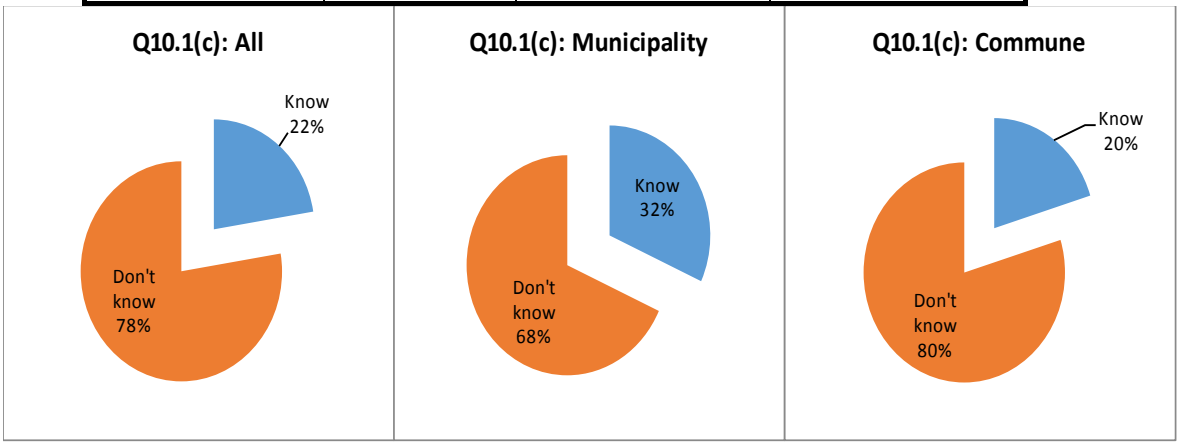
Q10.1(a)	All	Municipality	Commune
Yes/Po	116	22	94
No/Jo	236	43	193
Total	352	65	287



Q10.1(c) Area

Out of 116 Local governments who answered "Yes" to the Q10.1(a), 78 % answered that they did not know the size of the area (sqm) of the dump sites.

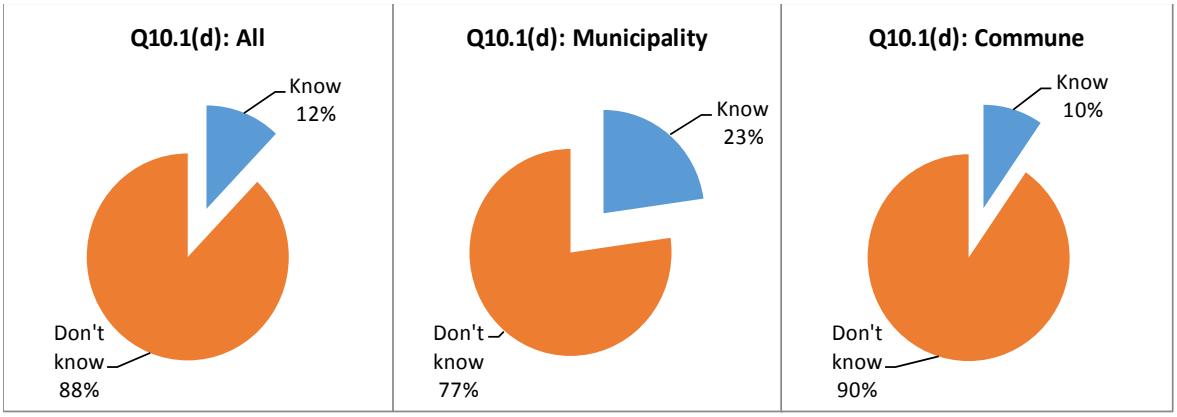
Q10.1(c)	All	Municipality	Commune
Know	26	7	19
Don't know	90	15	75
Total	116	22	94



Q10.1(d) Amount

Out of 116 Local governments who answered "Yes" to the Q10.1(a), 88% answered that they did not know the amount of the dumped waste.

Q10.1(d)	All	Municipality	Commune
Know	14	5	9
Don't know	102	17	85
Total	116	22	94



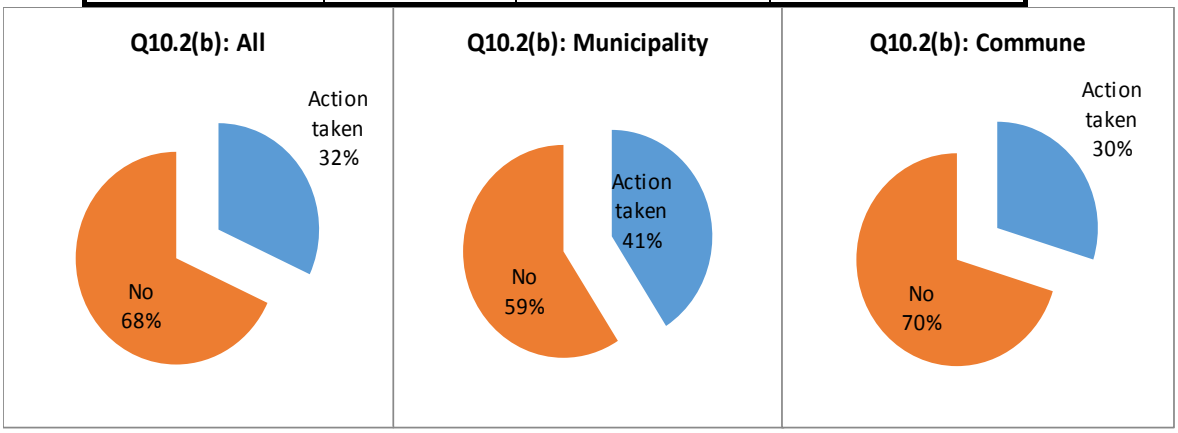
Q10-2 Please specify the progress of measures taken by the municipality/commune. If no information is available, please fill in"N/A".

Nr.	Illegal dumping site (a)	Progress (b)	Amount of waste removed (m3) (c)
1			

Q10.2(b) Progress

Out of 116 Local governments who answered "Yes" to the Q10.1(a), 32 % of the local governments answered that they had taken or were taking measures for the illegal waste.

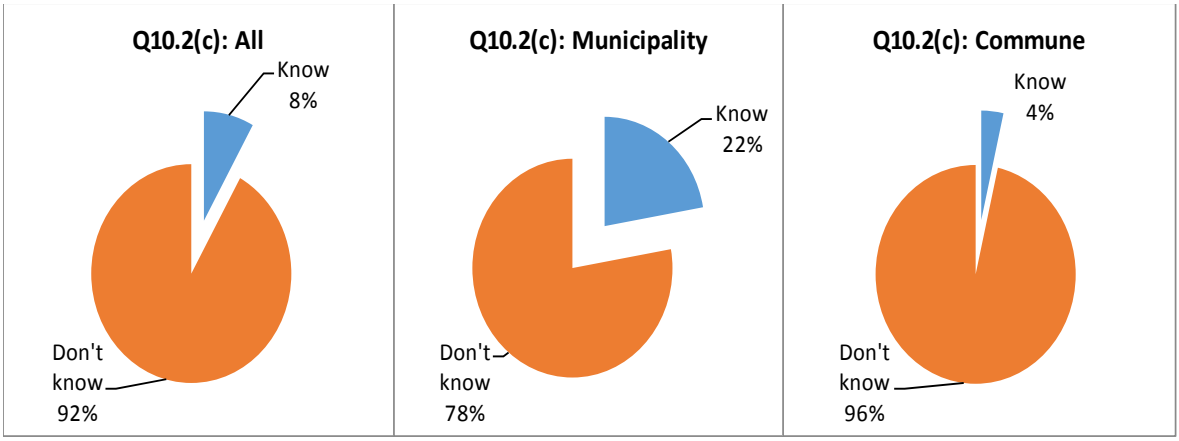
Q10.2(b)	All	Municipality	Commune
Action taken	37	9	28
No	79	13	66
Total	116	22	94



Q10.2(c) Amount removed (m3)

Regarding the amount of illegal waste removed through the measures (Q10.2.(b)), 92 % of the local governments answered they did not know what the amount was.

Q10.2(c)	All	Municipality	Commune
Know	3	2	1
Don't know	34	7	27
Total	37	9	28



B.5 Intermediate Processing of Waste

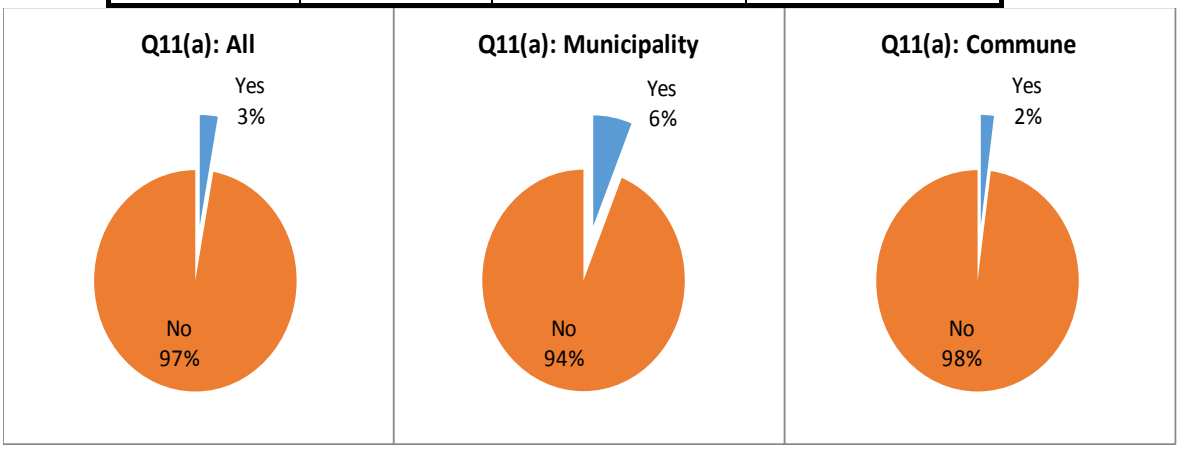
Q11 Please specify the intermediate processing system (mainly recycling system) introduced within the municipality/commune's administrative boundary.

No.	Municipality/Commune	Processing System (Recycling System) (a)	Detail (b)	Processing Capacity (c)
1				

Q11(a) Processing system (recycling system)

Regarding the question asking if there was an intermediate processing system (separation, combustion), 97 % of the local governments answered "No".

Q11(a)	All	Municipality	Commune
Yes	10	4	6
No	342	61	281
Total	352	65	287

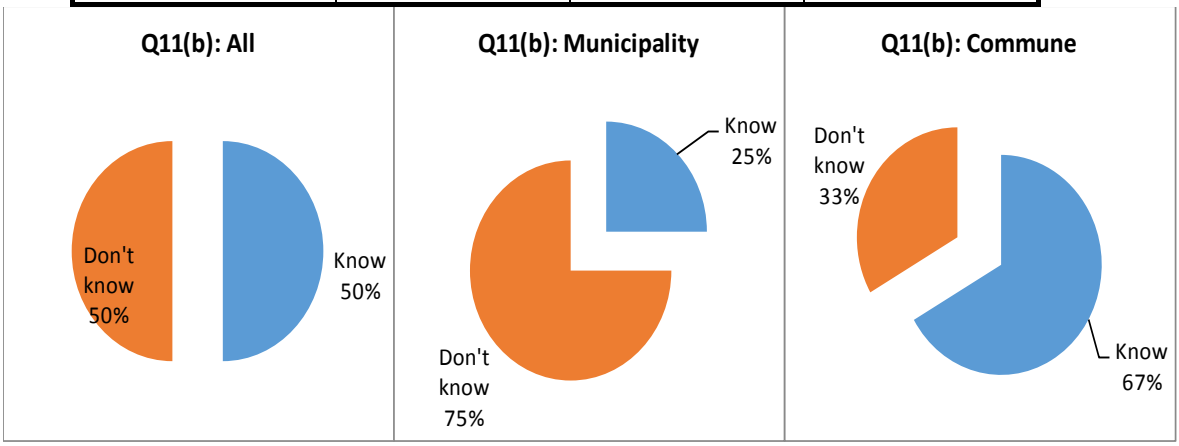


Q11(b) Detail

Out of 10 local governments that answered that they have an intermediate processing system within their administrative boundary, 50 % answered they did not know the details of the system.

Q11(b)	All	Municipality	Commune
Know	5	1	4
Don't know	5	3	2

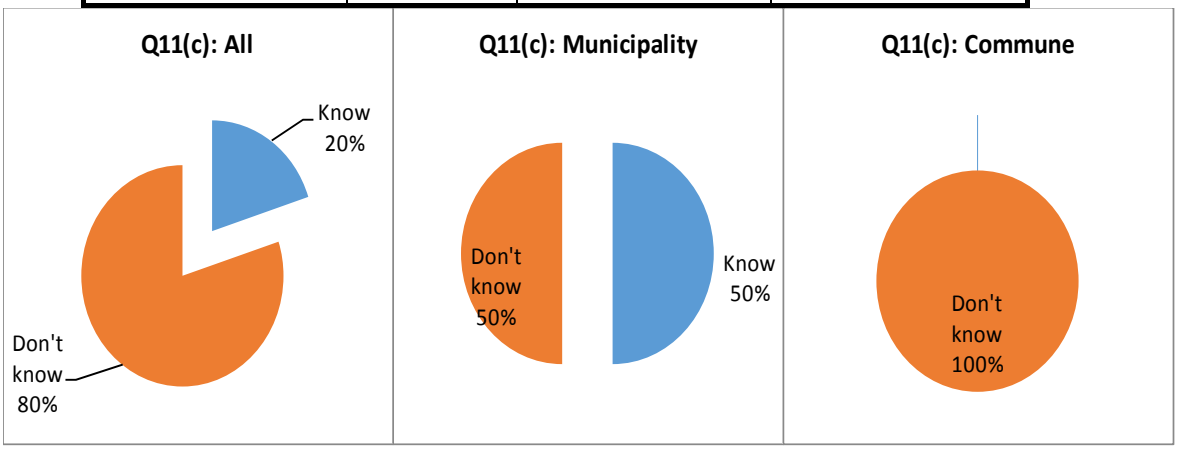
Total	10	4	6



Q11(c) Processing capacity

Out of 10 local governments that answered that they have an intermediate processing system within their administrative boundary, 80 % answered they did not know the capacity of the system.

Q11(c)	All	Municipality	Commune
Know	2	2	0
Don't know	8	2	6
Total	10	4	6



B.6 Final disposal (landfill) site

Q12.1 Please specify final disposal site located within the municipality/commune's administrative boundary?

Nr.	Final Disposal Site	Location (a)	Local government of which waste is disposed at the site (b)	Area (m2) (c)	Operation Method (d)
1					

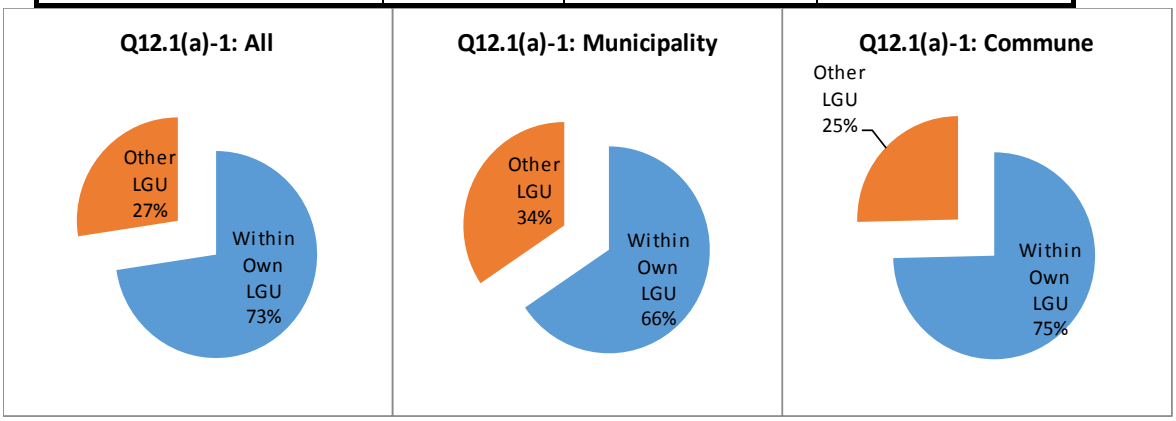
Q12.1(a) Final disposal site

Q12.1(a)-1 Location of Final disposal site

Out of 270 local governments who answered the question on location of final disposal site, 196 local governments (73 %) answered they treated the waste within their administrative boundary.

Q12.1(a)-1	All	Municipality	Commune

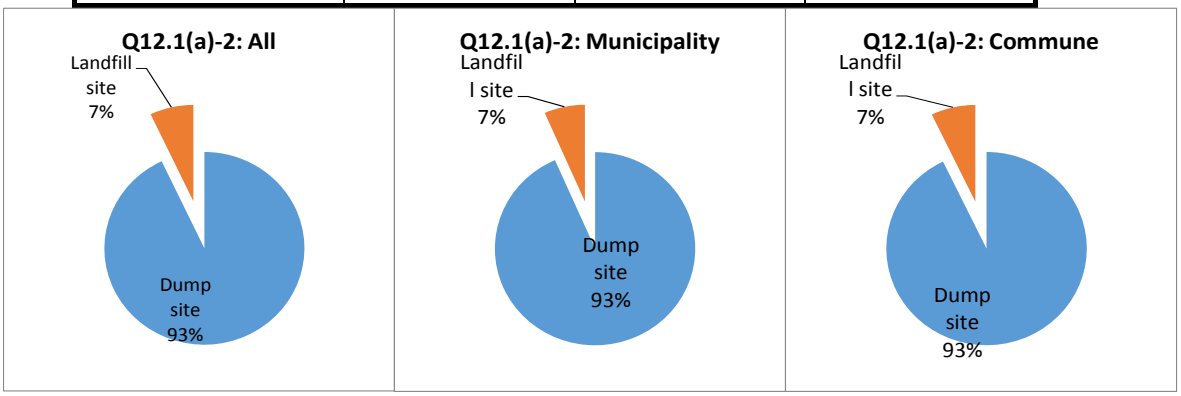
Within Own LGU	196	40	156
Other LGU	74	21	53
NA	82	4	78
Total	352	65	287



Q12.1(a)-2 Landfill or disposal Site

Out of 270 local governments who answered the question on final disposal site location, only 19 local governments (17 %) answered they treated the waste in the regional landfill site (Sharr and Bushat disposal site).

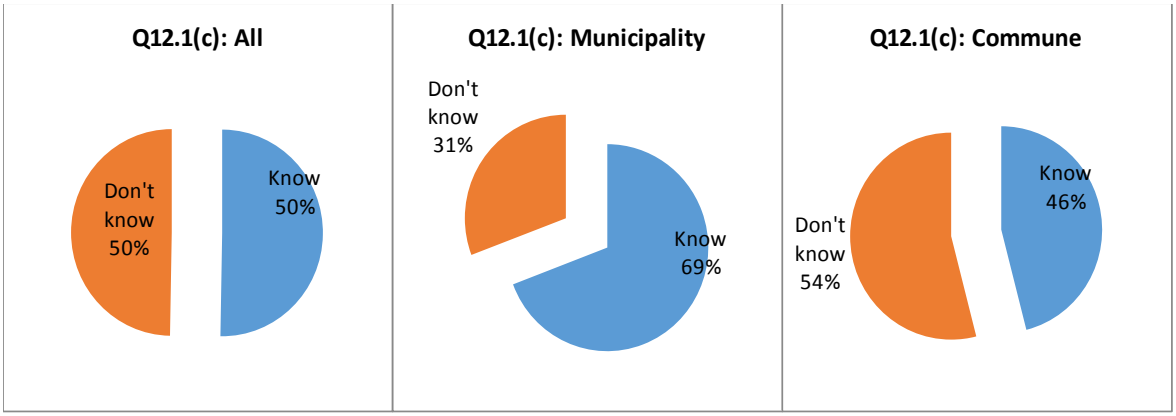
Q12.1(a)-2	All	Municipality	Commune
Landfill	251	57	194
Disposal site	19	4	15
NA	82	4	78
Total	352	65	287



Q12.1(c) Area (m2)

Out of 270 local governments who answered the question on final disposal site location, 50 % know the capacity of the final disposal site where waste from their administrative boundary goes.

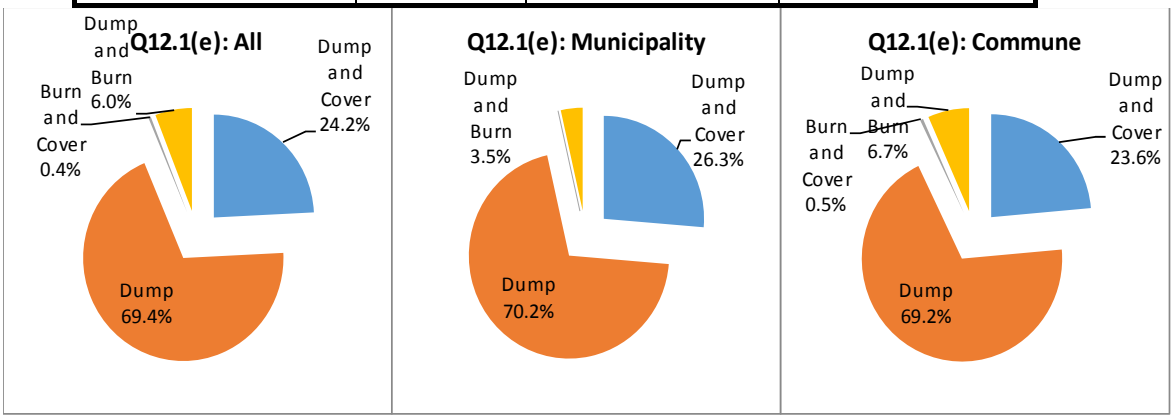
Q12.1(c)	All	Municipality	Commune
Know	177	45	132
Don't know	175	20	155
Total	352	65	287



Q12.1(d) Operation Method

Regarding the question of the operation methods of final disposal sites where the waste from each administrative boundary was treated, 252 local governments provided answers. Out of those who answered the question, 61 local governments (24.2 %) answered "Dump and Cover", while other local governments answered "Dump" or "Dump and Burn".

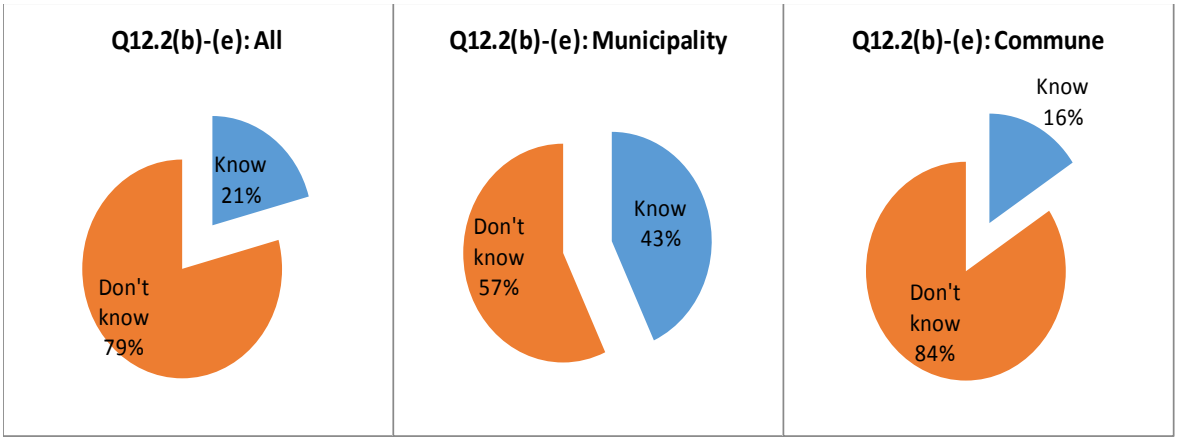
Q12.1(e)	All	Municipality	Commune
Dump and Cover	61	15	46
Dump	175	40	135
Burn and Cover	1	0	1
Dump and Burn	15	2	13
NA	100	8	92
Total	352	65	287



Q12.2(b)-(e) Disposed amount

Regarding the question of the amount of waste disposal from 2011 to 2013, 73 local governments (21 %) answered that they knew the information while 79 % did not know.

Q12.2(b)-(e)	All	Municipality	Commune
Recognized	73	28	45
Don't know	279	37	242
Total	352	65	287



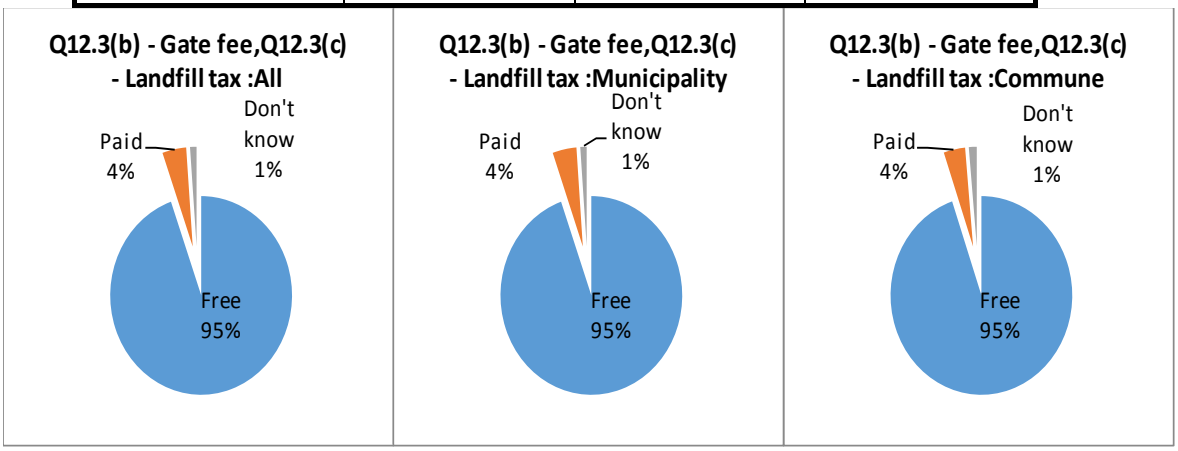
Q12-3 Please specify the rate of landfill tariff?

Nr.	Final Disposal Site	Gate fee	Landfill tax
1			

Q12.3(b) - Gate fee, Q12.3(c) - Landfill tax

Regarding the question of the landfill tariff, 333 local governments (95 %) answered “Free”, while 15 local governments (4 %) answered that they paid.

Q12.3(b) ,Q12.3(c)	All	Municipality	Commune
Free	333	61	272
Paid	15	4	11
Don't know	4	0	4
Total	352	65	287



B.7 Activities related to environmental education and public awareness

Q13 Please specify activities for environmental education or public awareness raising conducted in recent years?

No.	Activity	Location conducted	Year conducted	Detail
1				

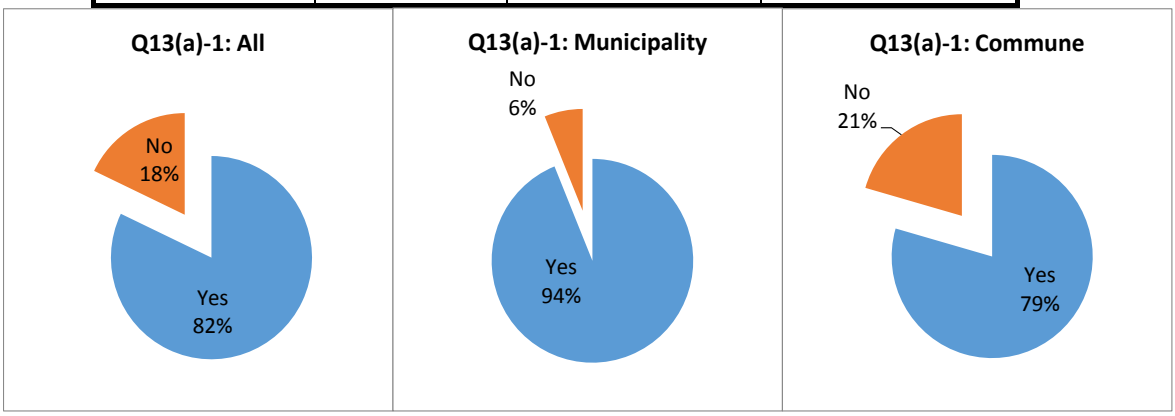
Q13(a) Type of activity

Q13(a)-1 Execution of Activity

Regarding the question asking if activities related to environmental education and public awareness were conducted, 289 local governments (82 %) answered “Yes”.

Q13(a)-1	All	Municipality	Commune
Yes	289	61	228

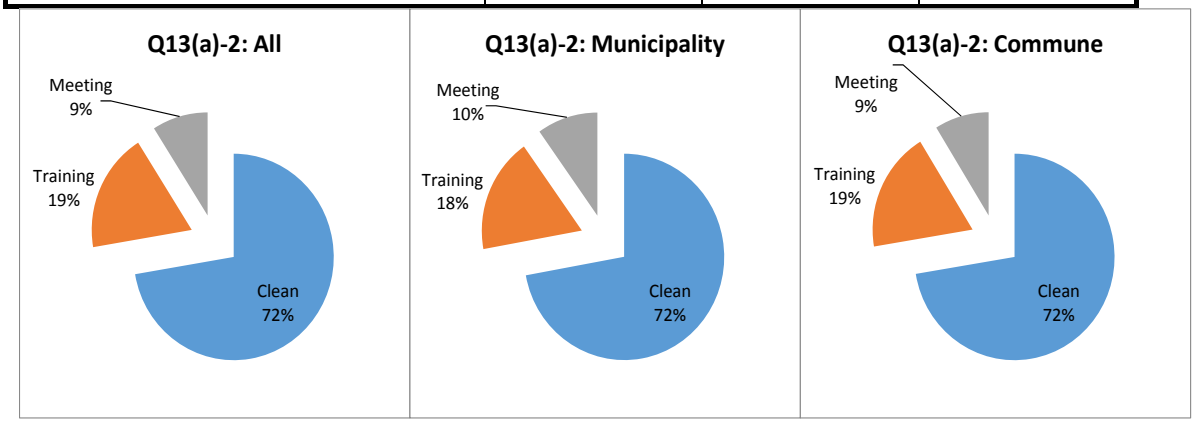
No	63	4	59
Total	352	65	287



Q13(a)-2 Type of Activity

The main types of activities related to environmental education and public awareness conducted by the LGUs were ”cleaning activities” in 209 LGUs (72 %), “Education at Schools and others” in 54 LGUs (19%), and “Public meeting” in 26 LGUs (9 %).

Type of Activities	All	Municipality	Commune
Cleaning activities	209	44	165
Education at Schools and others	54	11	43
Public meeting	26	6	20
Total	289	61	228



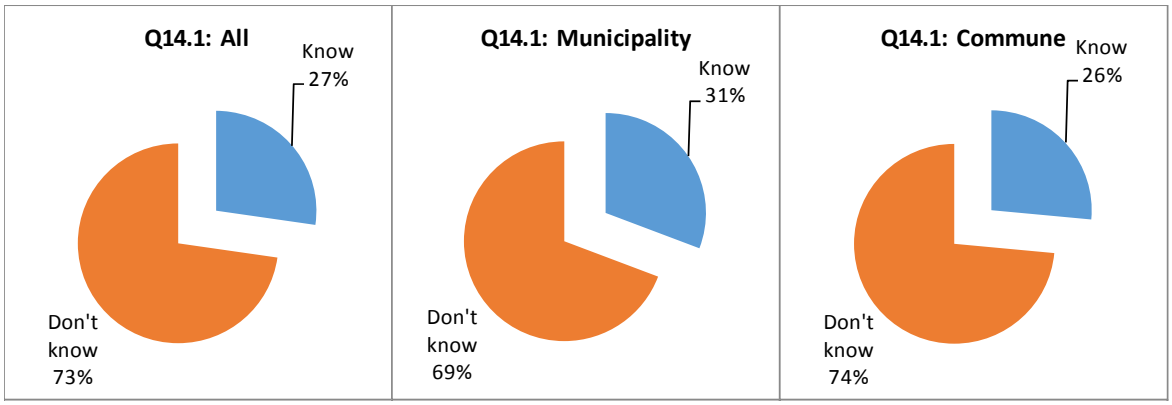
C. Financial status regarding waste management

Q14. Please specify financial status of waste collection service by private company in the municipality/commune by filling out the table below.

Q14.1 Financial status for waste management

Regarding financial status of waste management, 97 LGUs (27 %) answered they know the status while 256 LGUs (73 %) answered they did not know.

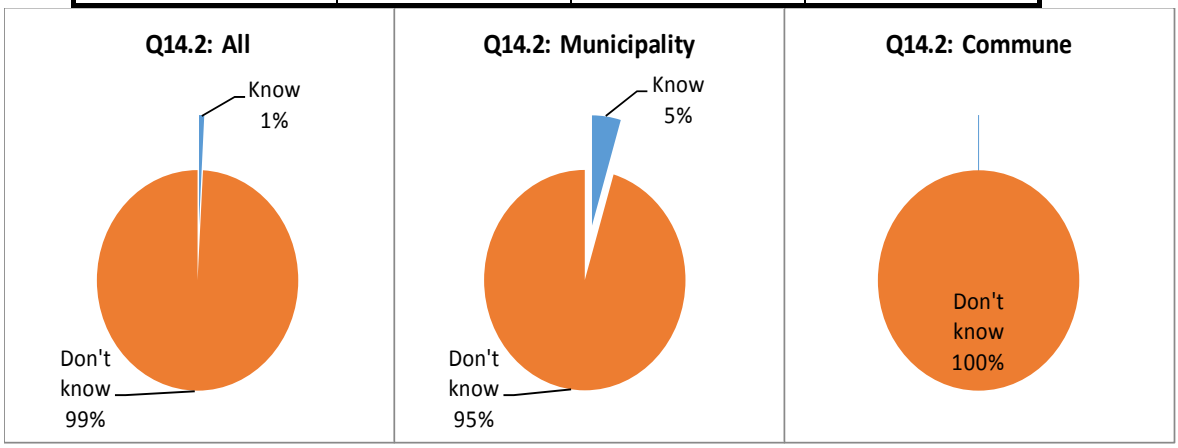
Q14.1	All	Municipality	Commune
Yes	96	20	76
No	256	45	211
Total	352	65	287



Q14.2 Expenditure for waste collection service by private sector

LGUs consign waste collection services partly or mostly to private companies. Almost none of LGUs knew the consignment fee they paid to the private companies.

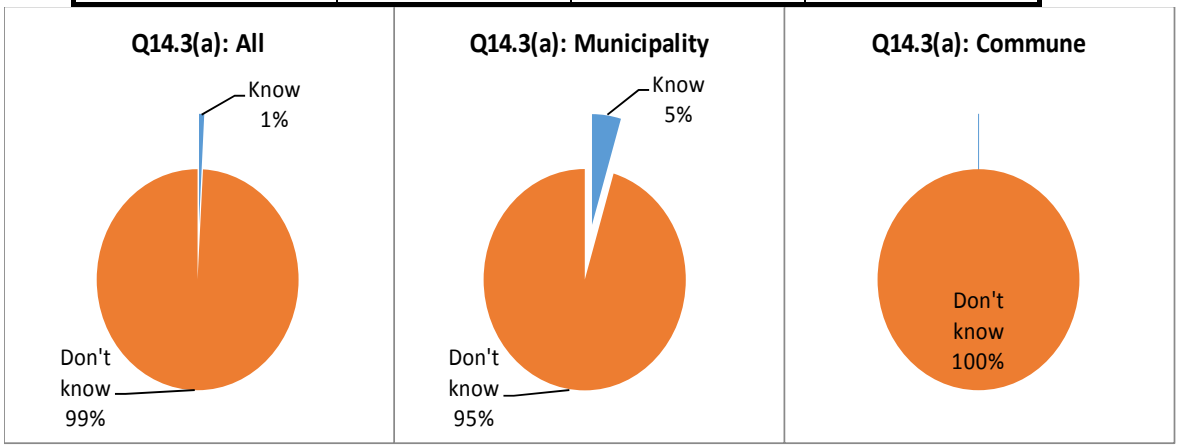
Q14.2	All	Municipality	Commune
Know	3	3	0
Don't know	349	62	287
Total	352	65	287



Q14.3(a) Expenditure for final disposal site

Only 3 LGUs (1 %) knew the financial status of final disposal site.

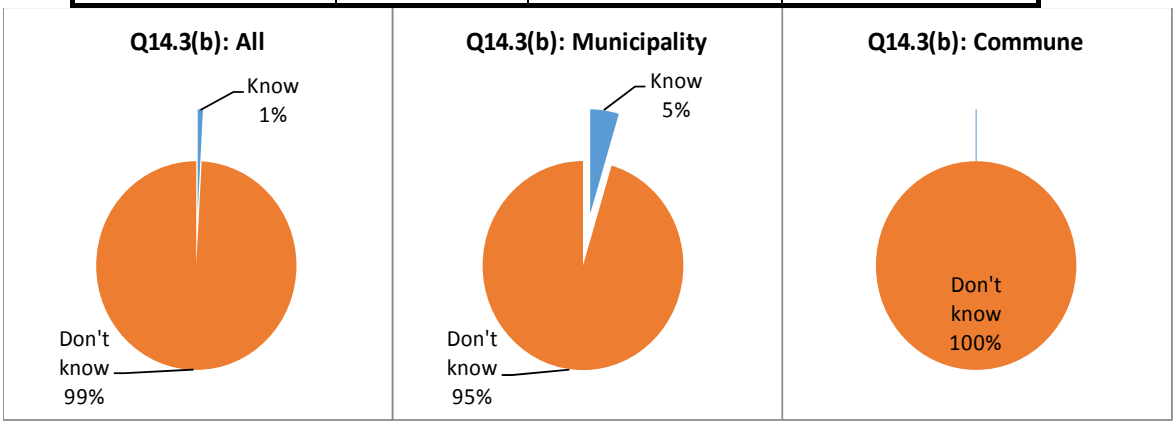
Q14.3(a)	All	Municipality	Commune
Know	3	3	0
Don't know	349	62	287
Total	352	65	287



Q14.3(b) Expenditure which is borne by LGU for final disposal site

Only three LGUs (1%) knew the financial status of final disposal site within their LGUs.

Q14.3(b)	All	Municipality	Commune
Know	3	3	0
Don't know	349	62	287
Total	352	65	287



Q14.4 Breakdown of waste management cost

No LGU knew the full breakdown of the cost related to waste management (breakdown includes the following: waste collection, intermediate treatment, final disposal, public cleaning, road sweeping, park cleaning, maintenance, administration & education, etc.)

Q14.4	All	Municipality	Commune
Know	0	0	0
Don't know	352	65	287
Total	352	65	287

1.1.4 Findings from the Survey on waste management

A. County

There were only five counties that had their internal organizations related to waste management. A question was asked if they know the activities related to waste management carried out in LGUs under each county's administrative boundary (Q2-6). The result showed that the information the county had was limited to the basic data collected from LGUs, such as population and waste amount, and the counties lacked detailed information such as information regarding illegal disposal and intermediate processing. In particular, no county knew the financial information. Therefore, it will be fair to say that comprehensive management of waste administration at county level is not being sufficiently carried out.

Ten Counties prepared an "Area Waste Plan", which was specified as a role of counties in the National Waste Management Strategy. However, according to the survey by the Expert team, there had been no Area Waste Plan approved so far. Furthermore, not many Area Waste Plans among those collected during the Survey were practical, and they tended to be limited to general concepts or a simple duplication of LGU-level plans.

From the above mentioned findings, it can be said that the involvement by the counties in waste management is limited, and it will be necessary to reconsider and define the roles to be played by the Counties.

B. Local government units

B.1 Internal organizations for waste management within the local government

Currently, there are 373 local government units, and the size of each LGU varies from small to large. In most cases, small LGUs, especially communes, do not have a specialized internal organization for waste management, and only 6 relatively large scale municipalities have such a specialized organization within their structure. It is desirable to allocate persons in charge of waste management in each LGU, taking the opportunity of territorial reform of LGUs to be executed after the nation-wide local election in 2015.

B.2 Understanding of actual situation of waste treatment

Many LGUs answered that they knew the total amount of waste discharge, but not many of them knew the breakdown of the amount. To achieve the national objectives of "Reduction of waste" and "Promotion of 3R", the following should be followed step by step:

- Understanding actual situation of waste management by each LGU,
- Preparing plans for future waste management,
- Taking measures to accomplish the plan.

To ensure actual progress, any measure to be implemented is required to be chosen according to the actual situation at the time. It will not bring about the desired result to set about the measures such as separation, collection and recycling plan all at once without considering the actual situation.

According to the answers received during the Survey, it is unlikely that the officers in LGUs have the knowledge and experience necessary to execute the three steps mentioned (in this section) above. Therefore, it is urgently needed to develop the ability of LGU officers through setting up opportunities such as training or information exchange between the LGUs organized by the national government entities.

B.3 Waste collection services

According to the Survey, nation-wide waste collection service coverage rate of household waste was 72 % (population basis). Full coverage of collection service within LGU was provided by 91% of municipalities, while that of communes was only 40%. To advance 3R and reduction of waste, it is essential to gain cooperation and shared efforts of the residents. In doing so, increasing residents' satisfaction with waste collection service is important so that the residents will be willing to cooperate towards the shared goal.

Although the most common way of waste discharge practiced by residents is to dispose waste into waste containers, dump trucks are mostly used for waste collection by communes. It is desirable to replace dump trucks with compactor trucks to improve the efficiency of waste collection, as transferring waste from a container to a dump truck is inefficient. While 33 % of LGUs answered that there were illegal dump sites within their administrative boundary, it is necessary to look into the correlation between the waste collection coverage rate and existence of illegal dump sites.

In terms of waste collection service fee, 61 % of LGUs knew the amount of fee collected from each household, and the amount was less than 100 Leke/month/household in 75.6 % of those LGUs (that knew the amount collected). However, it is necessary to see if the fee is set adequately considering the fee collection rate and financial status so that sustainable waste

management is secured.

B.4 Intermediate processing system

Only 10 LGUs (3 %) answered that they have an intermediate processing system of waste within LGUs. The actual number is seven considering three Communes mentioned their intermediate processing system is installed in Bushat final disposal site. According to the survey on recycling situation conducted by the Expert Team, it was discovered that wastes such as plastic bottles, metals, and cardboard are collected by waste pickers and recycled. It is expected that reduction of waste and promotion of 3R will be accelerated through installation of intermediate processing systems focusing on such wastes for which a recycling market already exists.

B.5 Final disposal site

Sherra disposal site and Bushat disposal site are the only officially approved final disposal sites in Albania as of November 2014. Wastes from LGUs close to these two final disposal sites are transported to the sites, while most of the LGUs treat the waste within their own boundary since they cannot afford to transport their waste to distant disposal sites due to cost constraints and lack of transportation equipment. Although construction and operation of final disposal sites are not a matter dealt solely by LGUs and take more than a short period of time, it is desired that the National Government and Counties would take roles of guiding LGUs so the current situation will be improved through the LGU's own effort.

B.6 Financial status on waste management

Almost no LGU knew the financial status of waste management in their LGUs. The reasons for this can be assumed as follows: i) waste collection service fee is usually collected together with other fees such as cleaning tax; and ii) waste collection is consigned to private companies together with other public services related to waste management. It is considered that these two situations make it difficult to grasp the financial status (revenue and expenditure) of each waste-management- related service separately.

It is essential to grasp the financial status for sustainable provision of public services not just for waste management but public services in general. Failing to do so may have a negative impact on the whole financial management of an LGU. To avoid this, it is desired to introduce a system with which financial management can be done in a systematic manner when the territorial reform of LGUs is executed.

1.1.5 Recommendations

A. The need for establishing organizational structure for waste management

The "National Waste Management Strategy" describes counties as the responsible bodies to prepare and implement the Area Waste Plan. However, the Survey result shows that roles played by the counties in waste management are limited compared to what is expected in the National Waste Management Strategy, or waste management services by LGUs are not carried out in close cooperation with Counties.

According to the "law on the administrative-territorial division of local government unit of the Republic of Albania" enacted 31 July 2011 and approved in September 2014, the current 373 LGUs will be integrated into 61 LGUs. The expected roles of the LGUs under the "Law on LGUs" may be revised after the reorganization of LGUs. It can be pointed out that there is

an inconsistency of roles and responsibilities expected of counties between the "National Waste Management Strategy" and "Law on LGUs". The responsibilities that counties are expected to hold under current "National Waste Management Strategy" is to lead LGUs, while under the "Law on LGUs", LGUs are positioned as the second legal entity next to the national government and the counties as the third, with their expected roles to support LGUs.

Based on the actual roles taken by the counties and the above-mentioned inconsistency that currently exists in the waste management system, it is necessary to reconsider the roles and responsibilities of central government, counties and LGUs in waste management of Albania so that they will work in accordance with the actual situation and the laws, taking the territorial reform of LGUs to be executed in 2015 as an opportunity to implement changes.

B. Development of final disposal sites

As found in the Survey, most of the LGUs treat waste within their own administrative boundaries but do not transport it to the officially approved final disposal sites. Waste reduction and promotion of 3R are necessary in terms of future waste management service. However, the first step to be taken towards the improvement of waste management is the realization of waste collection system and adequate treatment of waste. Development of final disposal site will not only enable adequate treatment of waste, but will also contribute to waste reduction and promotion of 3R as intermediate treatment system such as separation and recycling equipment can be installed in such final disposal sites.

It is commonly recognized that development and operation of final disposal sites cannot be borne solely by LGUs due mainly to the large budget necessary. Therefore, it is desired that the Central Government and the Counties will take active roles in development of final disposal sites.

C. Capacity building of LGUs on waste management

The current capacity of LGUs on waste management is limited, and drastic improvement of capacity is unlikely even after the reorganization of LGUs. "Law on LGUs" defines implementation of waste management and the securing of finance for implementation as the role of the LGUs. This stems from the decentralization policy to transfer the responsibility from the central government to the local government. However, it is difficult for the LGUs to find a way to comply with the current situation since the current knowledge and experience of the officers in LGUs are not sufficient.

Given the circumstances, the following are considered the capacities urgently required for LGUs officers:

- Knowledge on acquiring the means of how to grasp the current situation
- Knowledge on planning
- Ability to carry out the activities as planned

The above-mentioned items do not require strict implementation at this stage, but the most important item is that capacity is developed to grasp the current situation and to make decisions on which direction to take moving forward. When those capacities are developed, the next steps will be the following:

- Acquiring financial management capacity
- Acquiring contract management capacity
- Utilizing private investment

To develop the capacity of LGUs as mentioned above, it is anticipated that knowledge / experience sharing by the central government to LGUs is useful and thus the role of the central Government in guiding LGUs is desired. In addition, the lack of a nationally or regionally unified methodology or guideline is making it difficult to grasp the current condition such as waste generation amount. Therefore, it is desired that the central government or counties take leading roles to develop guidelines for methodology and planning to realize concrete steps torward integrated waste management.

2 Activity related with Output 2

3R Guideline was made for activity related with Output 2. Detailed activities are shown as below. Refer to the separate booklet for the 3R Guideline created.

2.1 Publishing history of 3R Guideline

This Guideline has been developed by the Ministry of Environment (MoE) of Republic of Albania and the Japanese Expert Team (JET) of a technical cooperation project "The Project for The Support of Waste Minimization and 3R Promotion" (hereafter, the Project) by Japan International Cooperation Agency (JICA). The Project started in July 2014 following a request from the Albanian government to promote waste minimization through the three R (the 3Rs of: *Reduce* at generation source, *Reuse*, and *Recycle*) concept based on their National Strategy on Waste Management.

Prior to the development of the first draft of the Guideline in July 2015, JET conducted the National Survey on Solid Waste Management by Local Government Units, which consisted of literature and questionnaire surveys to every LGU, and carried out a series of baseline surveys on their own in three local government units, which had been planned to be the targets for conducting pilot projects under the Project. Based on the findings from the surveys, the following aspects were discussed and agreed between MoE and JET in March 2015, and have been set as the basic policy for formulating the "3R Guideline."

- Objective of formulation of the 3R Guideline
- Composition of the 3R Guideline
- Planning Framework consisting of future population, future waste generation amount and other indices.
- Target year and target figures to promote the 3Rs

It was also confirmed that the following would be included as "Composition of the 3R Guideline".

- Procedures of developing 3R Action Plans for implementation of the 3Rs
- Process and methods of implementation of 3R activities

Specific contents of each agreed upon aspect are reflected and included in the Guideline.

The contents of the first draft, especially that of "3R action plan to implement the 3R Pilot Project (3R-PP)", will be reviewed after implementing pilot projects in three target LGUs over a period of about 1.5 years through the Project, and will be revised to compose the final draft of the Guideline.

The unit of "LGU" mentioned in the Guideline refers to the previous Albanian territorial designation of "local government unit" which existed until the territorial reform in September 2015 (including both municipalities and communes). Therefore, firstly, it was necessary to make a waste flow for each of the previous local government units based on the survey result. Then waste flows for each of the new territorial local government bodies were made by merging of the previous local government unit's waste flow with the waste flow data for the new territorial local governments.

The "waste" in the Guideline refers to "municipal waste" or "urban waste", and means the household waste or similar waste (discharged from small-scale or individual offices and businesses), which are collected by the general municipal waste collection services provided by the local government. Moreover, "waste" in the Guideline excludes medical and industrial

wastes.

2.2 Formulation of the 3R Guideline

2.2.1 Background of developing the 3R Guideline

Inadequate SWM, especially insufficient set-up of final disposal sites, has been a critical issue for many LGUs in Albania. In order to provide a solution to this situation, although the country promotes construction of regional landfills on a county-basis, it is urgently required to reduce the amount of waste treated in the final disposal sites by implementing integrated SWM, which incorporates practices of the 3Rs.

The Albanian government, which aims to join the EU, has developed the National Strategy of Waste Management and the National Waste Management Plan in accordance with EU directives, and has set a goal of reducing the final disposal amount by 55 % by 2020 as compared to 1995. It tends to be taken for granted that 3R activities generally implemented in other EU countries can be adopted and replicated in Albania. However, it is too early to implement some of the 3R activities that have been effective in other countries due to differences in the current conditions of solid waste management and social environment concerning 3Rs between those European countries and Albania.

The table below shows the hierarchy of waste management set out in the National Waste Management Plan in Albania and definitions of the 3Rs described in the Guideline in comparison.

Table 1: Comparison with hierarchy of waste management promoted in the National Waste Management Plan in Albania and definitions of the 3Rs in this Guideline

<table>
<tr><td rowspan="6">Most favored Option
  </td><td>Definitions in National Waste Management Strategy</td><td colspan="2">Definitions of the 3Rs in the Guideline</td></tr>
<tr><td>1. Prevention</td><td>1. Reduce</td><td>Consciousness and action to reduce waste before producing waste.
As a result of an increasing population and improving living standards, not only laws and regulations or efforts of companies, but also actions by residents are needed to reduce waste.</td></tr>
<tr><td>2. Preparing for Reuse</td><td>2. Reuse</td><td rowspan="3">Waste generated after the attempt of waste reduction is reused or recycled as much as possible.</td></tr>
<tr><td>3. Recycling</td><td rowspan="2">3. Recycle</td></tr>
<tr><td>4. Recovery</td></tr>
<tr><td>5. Disposal</td><td>Disposal</td><td>Only after efforts of waste reduction, reuse or recycling is waste to be properly collected, treated and finally disposed in a proper manner without causing negative environmental impacts.</td></tr>
</table>

2.2.2 Interrelation between Waste Management and the 3Rs

Promotion of the 3Rs is closely interrelated with municipal solid waste management (MSWM).

MSWM can be expressed in a form of a Waste Flow consisting mainly of the following: 1) generation, 2) discharge, 3) collection and haulage, 4) intermediate processing, and 5) final disposal. Out of the actions of the 3Rs (Reuse, Reduce, Recycle) of waste, Reduce takes place mainly at generation source and Reuse and Recycle are practiced at several stages in the Waste Flow. More specifically, recycling is carried out in the following stages:

- On-site recycling in which, at a generation source (household), kitchen waste is recycled as compost and/or fed to livestock and wooden wastes from gardens is used as fire wood.
- The recyclables are collected at waste discharge sources by waste pickers
- The recyclables are collected at final disposal site by waste pickers
- Recycling at composting and/or sorting facilities

Thus far, no intermediate processing facility has been integrated in waste management in Albanian LGUs. The generation sources of waste are limited to households and non-households including business establishments and public cleaning activities and so on, because imports of the recyclables to the country are prohibited by the Albanian government.

The interrelation between waste management and the 3Rs is shown in the figure below.

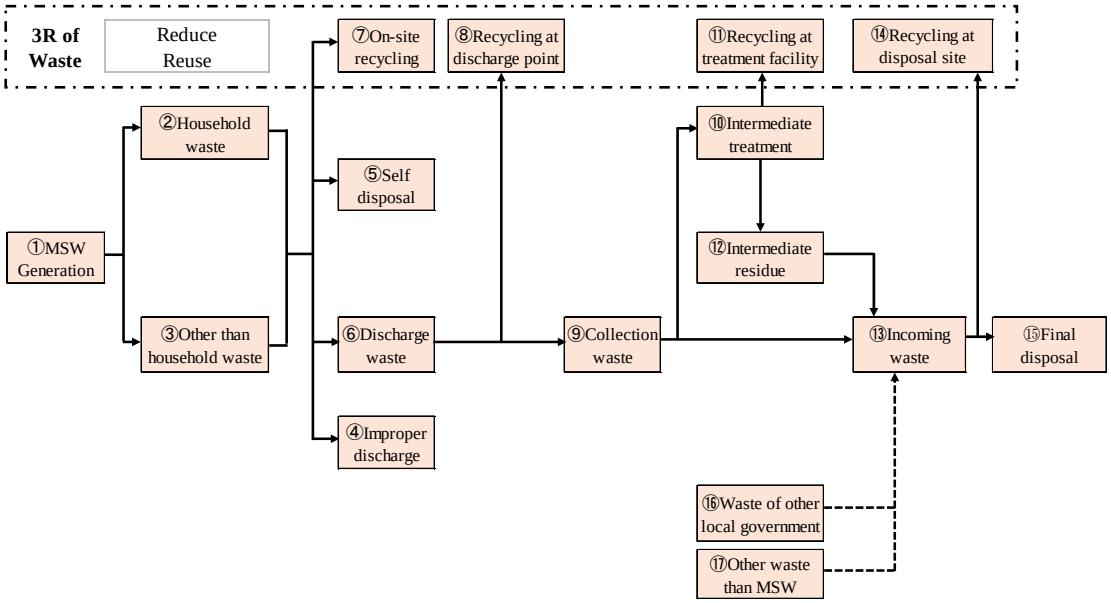


Figure 1: Waste Flow and the 3Rs of waste

2.2.3 Objectives in developing the 3R Guideline

The primary objectives of developing the 3R Guideline are to support making 3R activities implemented by LGUs more effective and sustainable and to promote the 3Rs throughout Albania, as described earlier.

On the other hand, waste reduction through the 3Rs cannot be independent of solid waste management as mentioned in the section above. The firm implementation of SWM is a precondition of successful 3R implementation. However, although the National Waste Management Plan demands every region and LGU to develop their own waste management plan—which should be a roadmap for LGUs to implement SWM—and implement its action plan, so far only regional waste management plans have been submitted to Ministry of Environment, but have not been approved yet. Therefore, it is fair to consider that the National Waste Management Plan has not yet been fully put into practice.

Formulation of the 3R Guideline will support putting the 3R-related policies—which are stipulated in the National Waste Management Plan—into practice, while also contributing to improvement of the overall situation of solid waste management. More specifically;

- When an LGU implements 3R activities, a 3R Action Plan is developed according to the 3R Guideline. Through this process, the 3R Guideline also supports LGUs in developing a waste management plan.
- 3R Guideline supports LGUs in implementing 3R activities. Through this process, the 3R Guideline supports realizing actions aimed in their waste management plan.

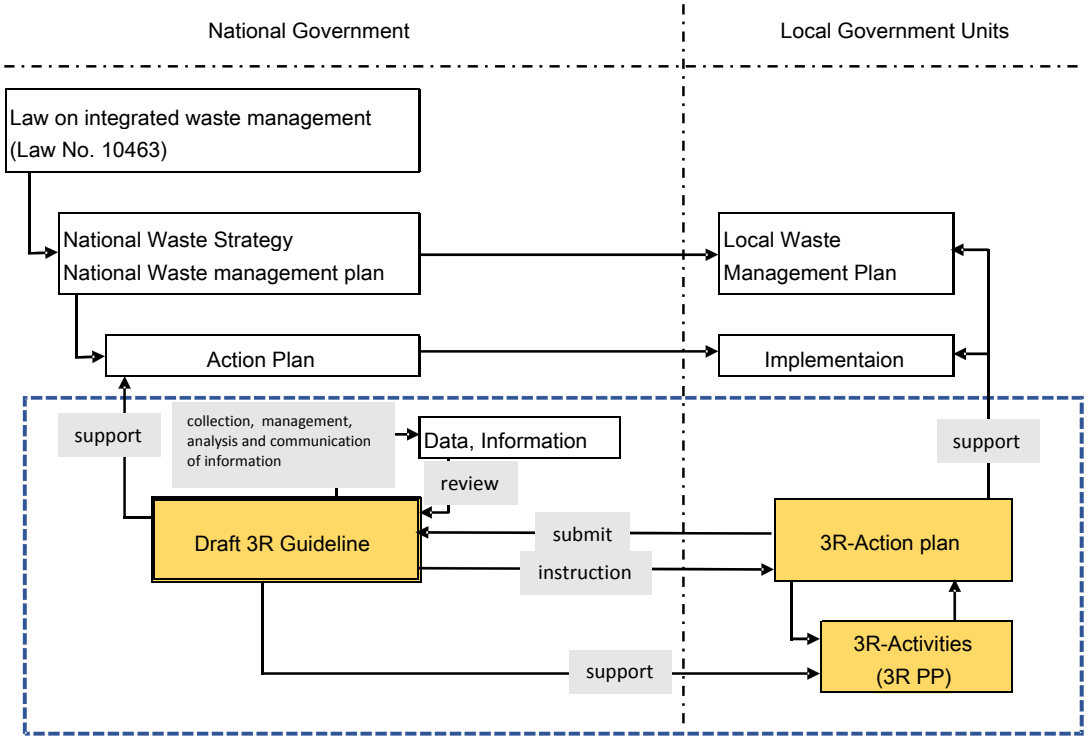


Figure 2: Positioning of 3R Guideline in SWM in Albania

2.2.4 Composition of 3R Guideline

The 3R Guideline consists of three main sections: “national policy on the 3Rs”, “selection of 3R activities”, and “implementation of 3R activities by LGUs,” as indicated in the figure below.

In the section “national policy on the 3Rs”, the basic policies on the 3Rs indicated in the National Strategy of Solid Waste Management are to be clarified by developing specific numerical targets based on the current status and issues of solid waste management in Albania.

In the section “selection of 3R activities”, 3R activities which are feasible in the current Albanian context are to be selected, after screening typical 3R activities under certain conditions. Important viewpoints and points to be considered when the LGUs implement the 3R activities are also to be summarized, taking their effects on the management of solid waste into consideration.

The concerned LGU will formulate their 3R Action Plan in accordance with the national policy on 3Rs. The LGU will plan, implement and evaluate 3R Pilot Projects based on the 3R Action Plan, and incorporate their findings to improve their Action Plan.

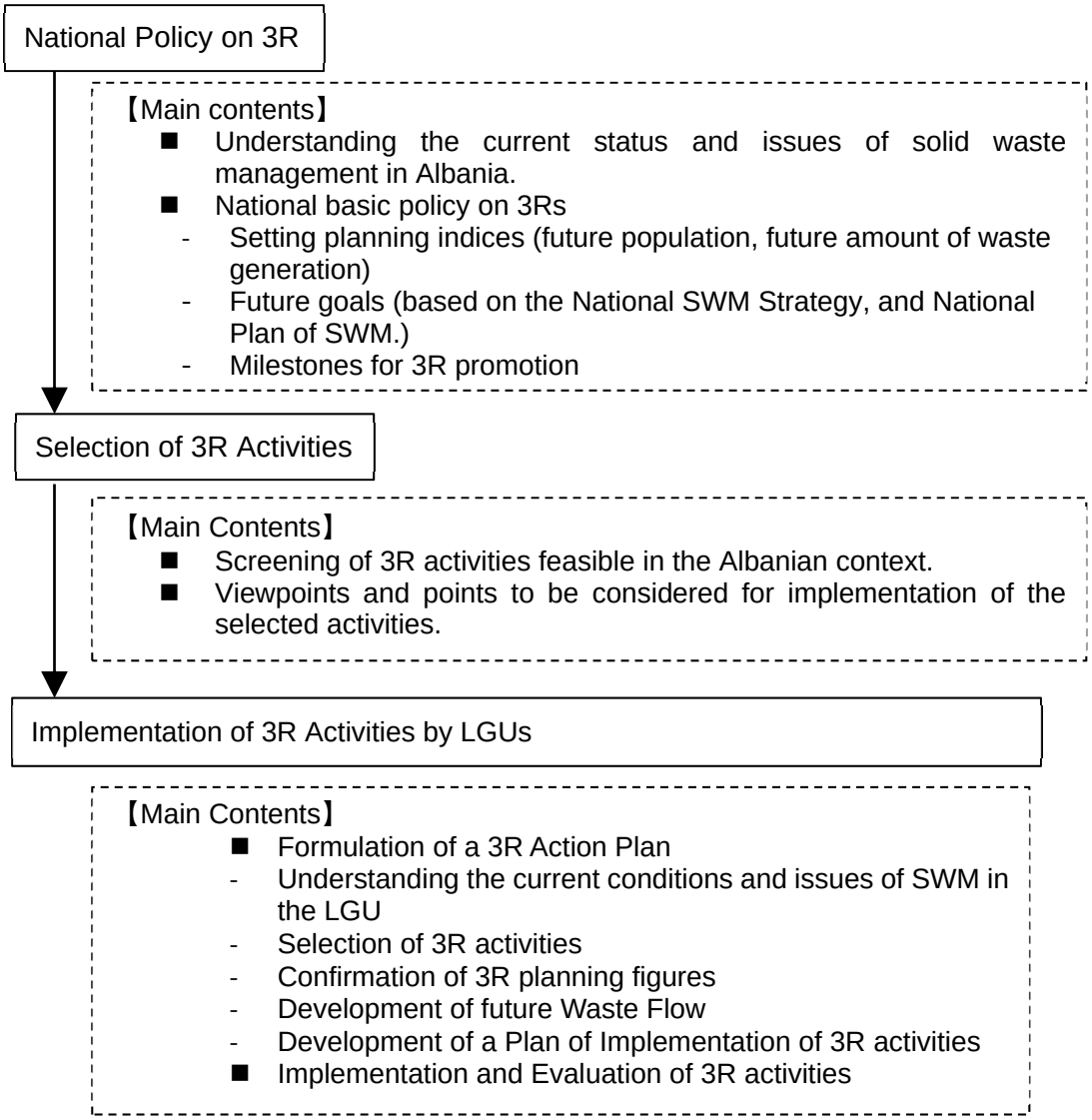


Figure 3: Composition of 3R Guideline

2.2.5 Steps for formulating and updating the 3R Guideline

The 3R Guideline is composed of eight chapters in the main section and nine chapters in the annex. The contents of the Guideline are shown in the table below. The 3R Guideline was formulated and updated following the steps indicated in the figure below.

Chapter 1 to 3 in this Guideline describe the process up to the point of developing concrete numerical goals from the national policy on the 3Rs, and is indicated in the first half of Step 1 in the figure above. In Chapter 4, a comprehensive list of standard 3R activities is developed and, within this list, 3R activities which are currently or in the near-future feasible for Albania (hereafter called “Recommended 3R Activities”) are selected. Chapter 6 explains the procedures of selection and implementation of suitable 3R activities which have been tested out and verified in the pilot LGUs. This part is shown in the latter part of Step 1 in the figure above as well as Step 2 where each LGU develops a 3R Action Plan and implements 3R activities.

Furthermore, as reference for LGUs to implement 3R activities, Chapter 7 introduces 3R action plans and 3R pilot projects implemented in the model LGUs. Meanwhile Chapter 8 introduces methodologies to implement 3R activities based on the experience and lessons

learned from 3R pilot projects and specific examples of other recommended 3R activities.

The 3R Guideline is targeted mainly for the following organizations.

Table 2: Contents of 3R Guideline and its target organization

Number	Content	Target organization		
		Central government	Regional government	Local government unit
Main				
Chapter 1	Publishing history of 3R Guideline	○	○	-
Chapter 2	Formulation of the 3R Guideline	○	○	-
Chapter 3	Current situation and issues regarding solid waste management and the 3Rs	○	○	-
Chapter 4	Setting goals for promoting the 3Rs	○	○	-
Chapter 5	Selection of 3R activities feasible in Albania	○	○	○
Chapter 6	Implementation of 3R activities by LGUs	△	△	○
Chapter 7	3R Action Plan formulated by local governments	△	△	○
Chapter 8	Examples of 3R activity	△	△	○
Annex				
1	National Survey on Solid Waste Managementby LGUs	○	○	△
2	Manual for waste amount and waste composition survey	△	△	○
3	Results of waste amount and waste composition survey	○	○	△
4	Waste flow in target Local Government Units	△	△	○
5	Form for formulation of 3R Action Plan in Local Government Unit	△	△	○
6	Draft 3R Action Plan (Tirana Municipality)	○	○	○
7	Draft 3R Action Plan (Cerrik Municipality)	○	○	○
8	Draft 3R Action Plan (Vau i Dejes Municipality)	○	○	○
9	Excel file for formulation of waste flow (Current situation and Future)	-	-	○

○: Strongly recommended, △: Recommended, －: Not applicable

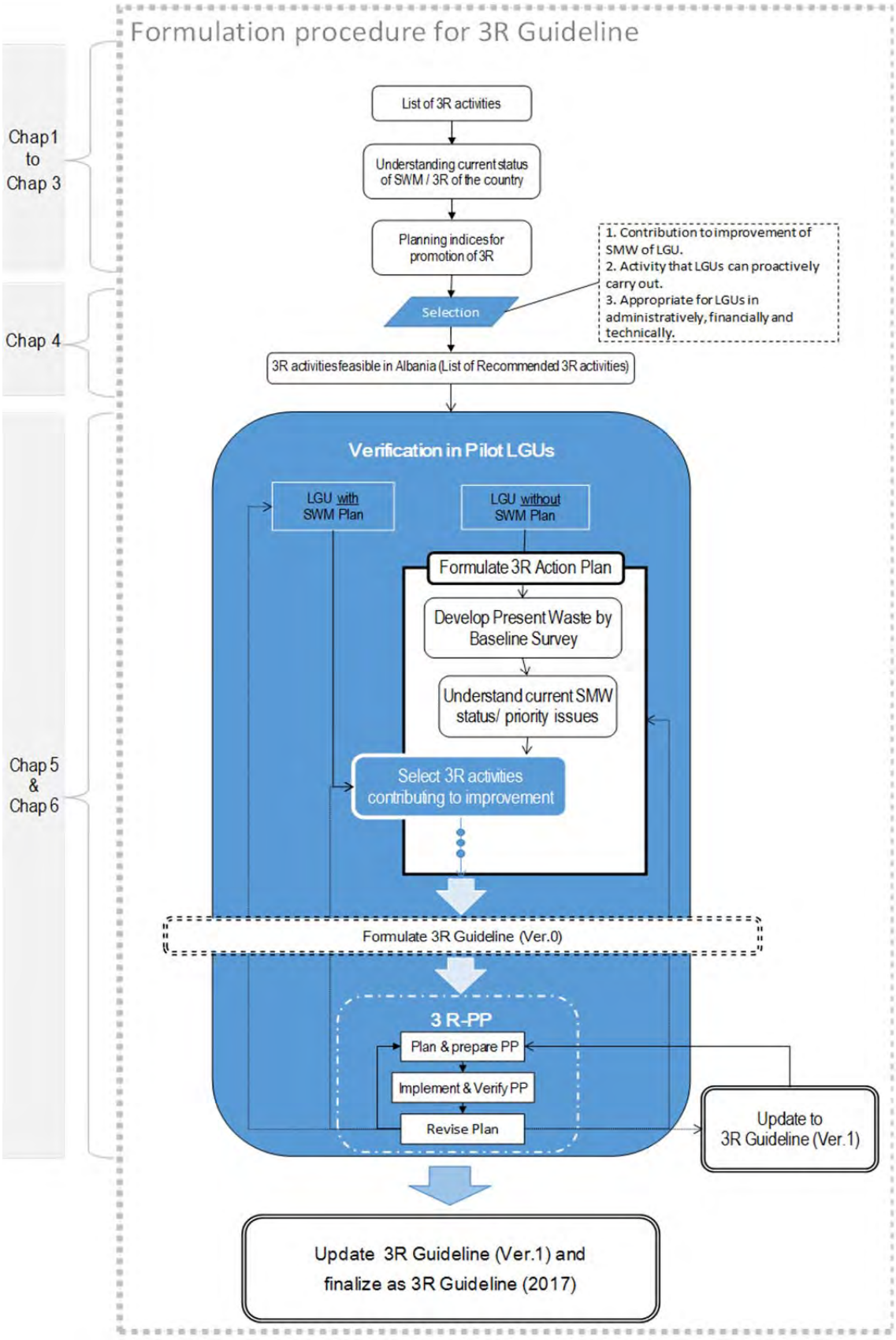


Figure 4: Steps for formulating and updating draft 3R Guideline

2.2.6 Updating and revising of 3R Guideline

A. Monitoring

Albanian law stipulates that MoE is responsible for supporting and promoting the implementation of waste management throughout Albania. 3R activities are one part of waste management, therefore, it is mandatory for MoE to support and promote 3R activities. Prior to supporting and promoting 3R activities, MoE shall grasp current 3R activities at the local government unit level. Although it is recommended for MoE to visit all of the 61 local government units, this is not realistic. Therefore, it is proposed that MoE grasp the current situation through the following monitoring sheet.

Table 3: Monitoring sheet for 3R activities

Name of Municipality:		
Name of controlled county (s):		
Date of Report:		
Description		
1	Draft 3R Action Plan in preparation	Date of publishing: For the year of to (5 year-plan)
2	Draft is prepared. Waiting for approval of the municipal council	Date of approval:
3	Approved by the municipal council. Waiting for the budget allocation for implementation of the activities.	Date of budget allocation:
4	Progress of 3R Activity	
(1)	Name of Activity	Progress:
		Problems (if any):
(2)	Name of Activity	Progress:
		Problems (if any):
(3)	Name of Activity	Progress:
		Problems (if any):

Please share with other municipalities any other lessons learnt (Your experiences that led to successful formulation or issues that hindered the formulation process of the 3R Action Plan for your municipality):

Albanian law stipulates that "MoE shall manage local government unit waste management activities through regional government". Therefore, sending and collecting of the monitoring sheet shall be done via the regional government according to the following diagram.

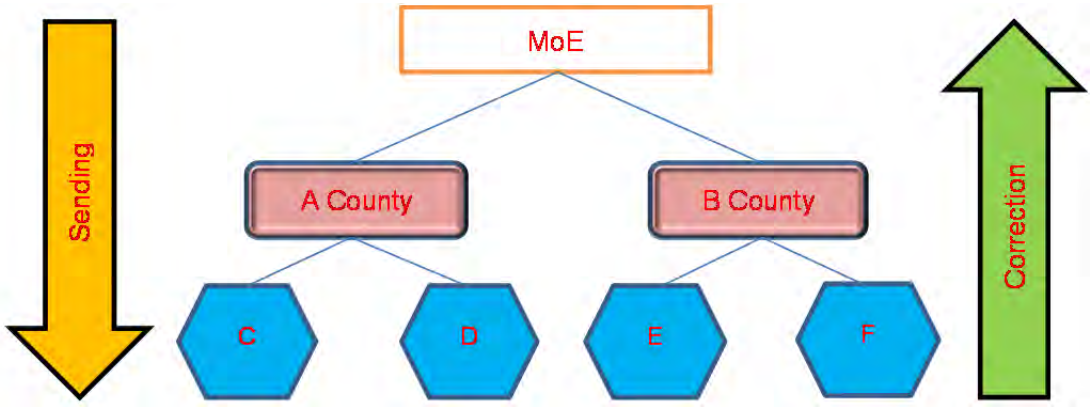


Figure 5: Sending and collection of the monitoring sheet

B. Updating 3R Guideline

Based on the monitoring sheet of local government units, MoE extracts activities not listed in "8.2 Introducing 3R activities" in the 3R Guideline or its improved activities. MoE shall summarize points of detailed activities, improvement and effectiveness and inform the public of this information. Furthermore, MoE shall add these contents into "8.2 Introducing 3R activities" in the 3R Guideline. It shall conduct this work once a year.

Table 4: Example of 3R Guideline updating

Description	Previous	Updated
3R activities name	1. Reduce	1. Reduce
	1.2 Education in school (National level)	1.2.(1) Education in primary and secondary school (Community level)
Target waste	Municipal waste	Municipal waste

Description	Previous	Updated
Summary	The current problems related to environmental issues including waste and recognition of the importance of environmental conservation are addressed in the curriculum of school education as environmental education.	A regulation is developed stipulating that primary and secondary school curriculums include current problems related to environmental issues including waste and recognition of the importance of environmental conservation
Point to be consider for implementation	• Deliberation of the education system • Review of Environmental education curriculum and programs • Training for teachers • Development of Environmental education materials	• Deliberation of the education system • Review of Environmental education curriculum and programs • Training for primary and secondary school teachers • Development of Environmental education materials • Establishment of regulation

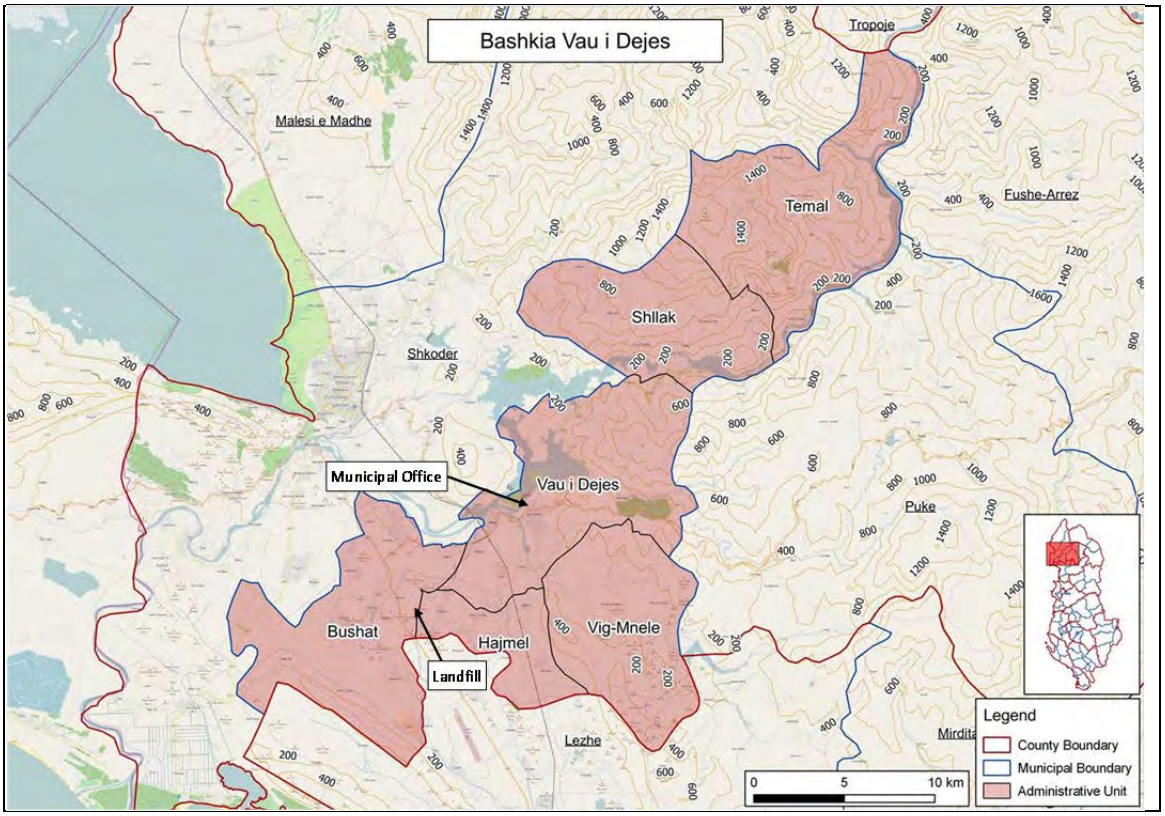
C. Revising 3R Guideline

3R Guideline is formulated according to National Waste Management Strategy and National Waste Management Action Plan. As of January 2017, it is planned for the National Waste Management Strategy to be revised by GIZ (German Corporation for International Cooperation, GmbH). When the aforementioned strategy and action plan are revised, MoE shall review the contents of the 3R Guideline in accordance with them. Also MoE shall revise 3R Guideline based on information including “Good practice” and “New activities” given by local government units. It shall conduct this work once every five years.

3 Activities for Output 3 (Vau i Dejes Municipality)

3.1 Municipality's overview

3.1.1 Geographical overview



3.1.2 Basic information

ID	Administrative Unit (AU)	Administration before Integration	Inhabitants	Households	Note
1	Bushat	Commune	18,096	4,585	Has largest population while not being the center of Municipality
2	Vau i Dejes	Municipality	10,800	2,734	Center of the municipality with large hydro-power plant
3	Hajmel	Commune	5,900	1,494	Middle-size AU in the municipality
4	Vig-Mnele	Commune	2,000	506	Small population, located in mountainous area
5	Shllak	Commune	900	228	Small population, located in mountainous area
6	Temal	Commune	2,100	532	Small population, located in mountainous area
7	Total		39,796	10,079	

3.1.3 Waste collection service

ID	Administrative Unit	Number of Containers Placed	Waste Collection Amount (ton/month)	Waste Collection Amount (ton/day)	Collection Service Frequency	Responsibility
1	Bushat	297	154.61	5.2	Once a week	ICZ with municipal compactor truck
2	Vau I Dejes	120	74.33	2.5	Once a week	ICZ with own compactor truck
3	Hajmel	69	40.03	1.3	Once a week	ICZ with own compactor truck
4	Vig-Mnele	0	0	0	Not Served	
5	Shllak	0	0	0	Not Served	
6	Temal	0	0	0	Not Served	
7	Total	486	268.97	9.00		

The compactor collects waste, container is lifted

Inside a container

Waste collection containers placed in the municipality

3.1.4 Waste collection vehicles

Big Compactor, property of Vau i Dejes Municipality (aa753iy)

Small Truck, property of Vau i Dejes Municipality (aa396ar)

Backhoe loader, property of Vau i Dejes Municipality

Big Compactor, property of Inter-Communal Zadrima (aa492gn)

3.1.5 Landfill Site

Landfill Site Overview

Table 5: Bringing waste amount to landfill site

	Lezhe Municipality	Shkoder Municipality	Vau I Dejes Municipality	Other Private	Total
Jan	474.22	2,140.90	203.00	187.40	3,005.52
Feb	450.18	1,994.96	204.14	146.20	2,795.48
Mar	516.82	2,322.84	304.50	229.01	3,373.17
Apr	552.62	2,662.88	274.20	169.68	3,659.38
May	576.50	2,673.90	233.94	162.93	3,647.27

	Lezhe Municipality	Shkoder Municipality	Vau I Dejes Municipality	Other Private	Total
June	671.28	2,843.88	248.04	97.48	3,860.68
July	1,062.88	3,149.06	289.18	57.56	4,558.68
Aug	1,244.72	3,026.42	359.76	476.22	5,107.12
Sept	693.50	2,535.64	303.94	280.34	3,813.42
Monthly Avg	**693.64**	**2,594.50**	**268.97**	**200.76**	**3,757.86**
Dayly Avg	**22.78**	**85.22**	**8.83**	**6.59**	**123.43**

	Lezhe Municipality	Shkoder Municipality	Vau I Dejes Municipality	Other Private	Total
Monthly Avg	249,015	931,425	96,559	72,071	1,349,071
Dayly Avg	8,179	30,594	3,172	2,367	44,313

3.1.6 Financial situation

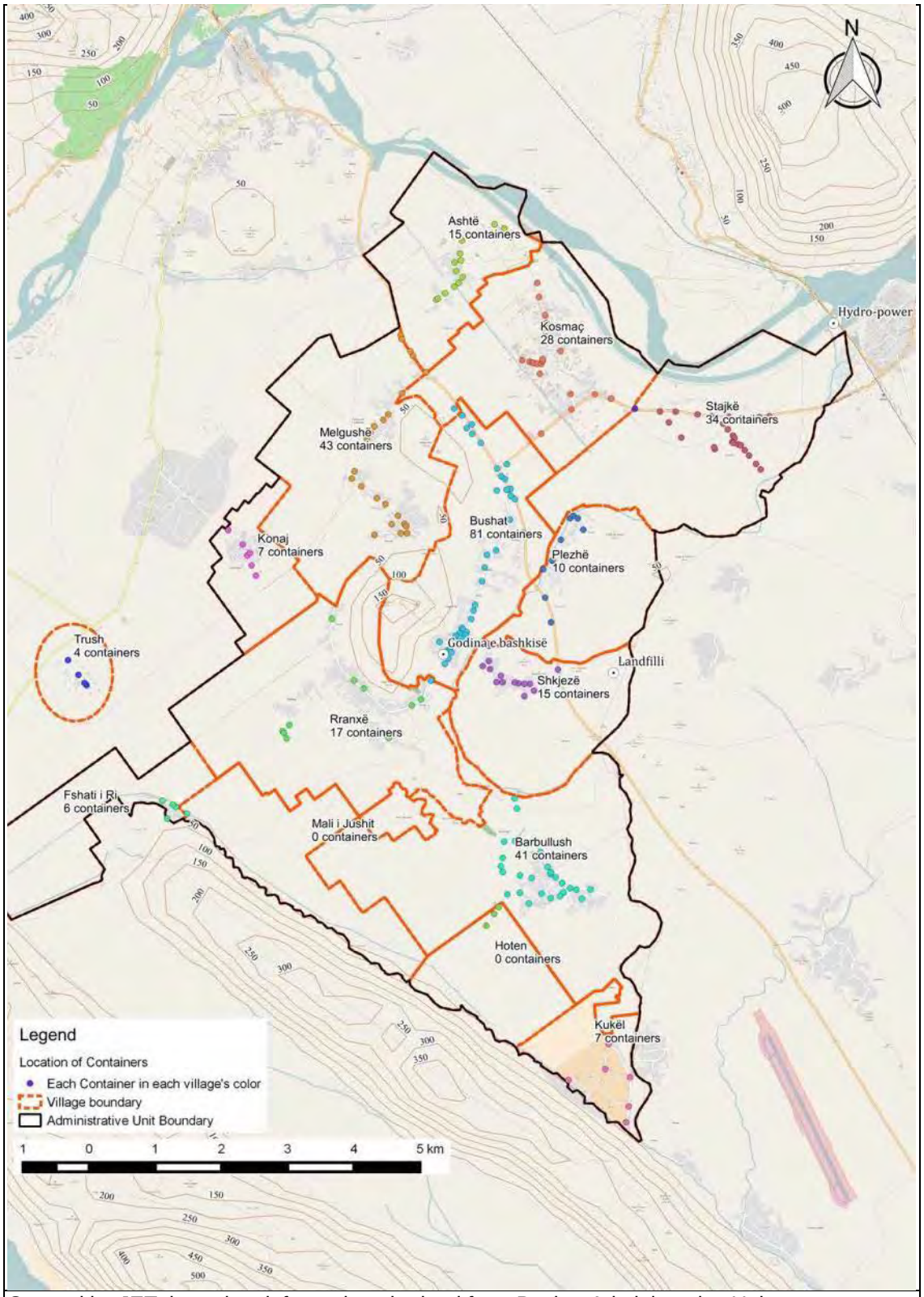
Administrative Unit	Number of Households	Household waste tariff (Lek/Year)	Theoretical Revenue from HHs (million Lek/Year)	Tariff Collection Rate to HHs tariff (%)	Estimated total revenue collected (million Lek/year)
Bushat	4,585	1,200	5.50		11.64
Vau I Dejes	2,734	1,200	3.28		6.94
Hajmel	1,494	1,200	1.79		3.79
Vig-Mnele	506		0.00	211.6%[1]	0.00
Shllak	228		0.00		0.00
Temal	532		0.00		0.00
Total	10,079		10.58		22.38

※ It has emerged from the calculation based on the national average rather than current income.

[1] Average rate figured out through national survey on 3R action plan. It is a coefficient total revenue

3.2 Bushat administrative unit's overview

3.2.1 Geographical overview



Created by JET, boundary information obtained from Bushat Administrative Unit

3.2.2 Basic information

Table 6: Population and households of each village in Bushat AU

		Registered civilians		Emigrants		Inhabitants	
		Household	Population	Household	Population	Household	Population
1	Bushat	708	2,740	185	700	523	2,040
2	Shkjeze	270	1,119	18	71	252	1,048
3	Pleshe	174	764	32	126	142	638
4	Stajke	693	2,783	118	456	575	2,327
5	Ashte	250	986	84	299	166	687
6	Kosmace	609	2,450	44	134	565	2,316
7	Melgushe	719	2,718	170	655	549	2,063
8	Konej	203	681	66	285	137	396
9	Rranxa	864	3,544	390	1,610	474	1,934
10	M.Jushit	228	885	61	225	167	660
11	F.Ri	201	861	38	162	163	699
12	Barbullush	1,029	4,048	332	1,466	697	2,582
13	Hoten	109	480	40	163	69	317
14	Kukel	180	675	74	286	106	389
	Total	6,237	24,734	1,652	6,638	4,585	18,096

3.2.3 Waste collection service

Table 7: Waste collection summary

ID	Administrative Unit	Number of containers Placed	Waste collection amount (ton/month)	Waste collection amount (ton/day)	Collection service frequency	Responsibility
1	Bushat	297	154.61	5.2	Once a week	ICZ with municipal compactor truck
2	Vau I Dejes	120	74.33	2.5	Once a week	ICZ with own compactor truck
3	Hajmel	69	40.03	1.3	Once a week	ICZ with own compactor truck
4	Vig-Mnele	0	0	0	Not Served	
5	Shllak	0	0	0	Not Served	
6	Temal	0	0	0	Not Served	
7	Total	486	268.97	9.00		

Table 8: Waste collection service of each village in Bushat AU

		Inhabitants			Number of bins located	Container Avg. per capita
		Household	Population	Distribution rate		
1	Bushat	523	2,040	11.3%	88	23.2
2	Shkjeze	252	1,048	5.8%	18	58.2
3	Pleshe	142	638	3.5%	9	70.9
4	Stajke	575	2,327	12.9%	33	70.5
5	Ashte	166	687	3.8%	13	52.8
6	Kosmace	565	2,316	12.8%	30	77.2
7	Melgushe	549	2,063	11.4%	27	76.4
8	Konej	137	396	2.2%	7	56.6

		Inhabitants			Number of bins located	Container Avg. per capita
		Household	Population	Distribution rate		
9	Rranxa	474	1,934	10.7%	19	101.8
10	M.Jushit	167	660	3.6%	0	
11	F.Ri	163	699	3.9%	5	139.8
12	Barbullush	697	2,582	14.3%	44	58.7
13	Hoten	69	317	1.8%	0	
14	Kukel	106	389	2.1%	9	43.2
	Total	4,585	18,096	100.0%	302	59.9

Table 9: Summary of waste collection status

Service provider	Bushat Commune	Not in service	Total
Total number of villages	12	2	14
Total Population	17,119	977	18,096
Total Households	4,349	236	4,585

3.2.4 Waste tariff

Table 10: Waste tax tariff in Bushat AU

Summary Chart of cleaning fee per category				
Subjects Categories	Unit	Liability 2014	Liability 2015	Liability 2016
Households	Leke/Year	1,200	1,200	1,200
NGO	Leke/Year	3,000	3,000	3,000
Business with turnover 0-8000000 is calculated cost of service coverage and results m2/year	Leke/m2/Year	100	100	100
Ambulant	Leke/Year	5,000	5,000	5,000
Freelancers				
Pharmaceutical and dental services	Leke/Year	20,000	20,000	20,000
Passengers transport (suburban + taxi)				
Vehicle 8-25 seats	Leke/vehicle/year	7,000	7,000	7,000
Vehicle over 25 seats	Leke/vehicle/year	10,000	10,000	10,000
Freight				
Vehicle up to 10 tons	Leke/vehicle/year	7,000	7,000	7,000
Vehicle over 10 tons	Leke/vehicle/year	10,000	10,000	10,000
Juridical entities				
Retail fuel trade		60,000	60,000	60,000
Juridical entities for production of asphalt-concrete, blocks, bricks, etc.		60,000	60,000	60,000
Construction Juridical entities registered in Bushat Commune		50,000	50,000	50,000
Service commercial entities (telephone, internet, mobile, Subject of transmission and distribution of electricity etc.)		60,000	60,000	60,000
Juridical subject “VIP”		500,000	500,000	500,000
Service Subjects (insurance, transportation, lotto-sport, banks, etc.		50,000	50,000	50,000
Juridical entities trading different items		60,000	60,000	60,000
Juridical entities producing meat, milk (pig, cow stalls)		60,000	60,000	60,000

Institutions			
Health centres	-		
Schools (11 schools)	-		
The fee for each subject that carries out project in commune (Leke / project / year) for each construction site			
Investment value up to 5 000 000 Leke	20,000	20,000	20,000
Investment value 5 000 001 – 10 000 000 leke	40,000	40,000	40,000
Investment value 10 000 001 – 20 000 000 leke	60,000	60,000	60,000
Investment value 20 000 001 – 30 000 000 leke	70,000	70,000	70,000
Investment value 30 000 001 – 40 000 000 leke	80,000	80,000	80,000
Investment value 40 000 001 – 50 000 000 leke	100,000	100,000	100,000
Investment value 50 000 001 – 100 000 000 leke	150,000	150,000	150,000
Investment value 100 000 001 – 200 000 000 leke	200,000	200,000	200,000
Investment value over 200 000 000 leke	500,000	500,000	500,000

3.3 Pilot Project in Bushat Administrative Unit

3.3.1 Pilot Project overview

Pilot projects have been planned and implemented as shown in the following table based on baseline survey and discussions.

Table 11: Outline of PPs

Bushat AU[2] (Vau i Dejes Municipality) PPs	
Target area	Bushat AU
Outline of the target	14 villages with about 4,600 households, about 300 waste containers
Basic principles	1. To figure out effective methods for reduction of waste to be landfilled in the area through phased implementation of the PP. 2. It focuses on agricultural and green waste in particular, since a lot of agricultural waste is discharged in the area. It will provide a certain model for other areas where similar characteristics are found. 3. Instead of approaching the reduction activity immediately, at first it establishes an appropriate collection service by the municipality and discharging manner of the citizen which includes how to treat agricultural waste 4. Then, a method of waste reduction will be examined.
Summary of PP	Phase 1: To ensure appropriate waste collection service is provided by the municipality Phase 2: To establish an appropriate waste discharging system which citizens will accept and follow. Phase 3: To establish an appropriate method for waste reduction

3.3.2 Phase 1, Improvement of waste collection service

A. Table of summary

Table 12: Summary of Phase 1

Phase 1 (September, 2015 –April, 2016)	
Title	To ensure appropriate waste collection service is provided by the municipality

[2] Administrative Unit (AU)

Target area	Whole Bushat AU territory
Target scope	14 villages with about 4,600 households, about 300 waste containers
Issues	• Waste is discharged at discharging places beside waste containers, which makes it difficult to use compactor truck for waste collection. Consequently, municipality's waste collection service tends to become irregular. Another cause of irregular service is an insufficient municipal budget after the territorial reform. • Such unstable waste collection service causes a vicious cycle in which people repeatedly discharge waste in a disorganized way when they look at the untidy status of discharging places.
Objective	First of all, it (the PP) demonstrates comprehensive, unified collection service to identify the issues and understand the situation. In order to acquire the people's understanding and cooperation, it performs frequent and regular waste collection service.
Goals	1. The waste collection service provided in the former Bushat commune area (14 villages) will be unified and provided by one source by mobilizing the municipality's compactor truck 2. All containers in 14 villages shall be covered in one week with one vehicle. 3. The budget application document shall be drafted for the municipality to secure the budget for waste collection service with the above-mentioned frequency from year 2016 4. The information acquired through implementing the trial collection service shall be utilized to design activities in Phase 2.
Procedure	1. To formulate tentative collection route and schedule 2. To commence the waste collection service on trial as per the formulated schedule 3. To figure out the cost and collection efficiency based on the records kept during implementation of waste collection 4. To review the schedule based on the result of trial collection, and revise it if necessary. 5. To draft the budget application document to manage the waste collection service with the municipality's own cost from year 2016.

B. Situation for implementation

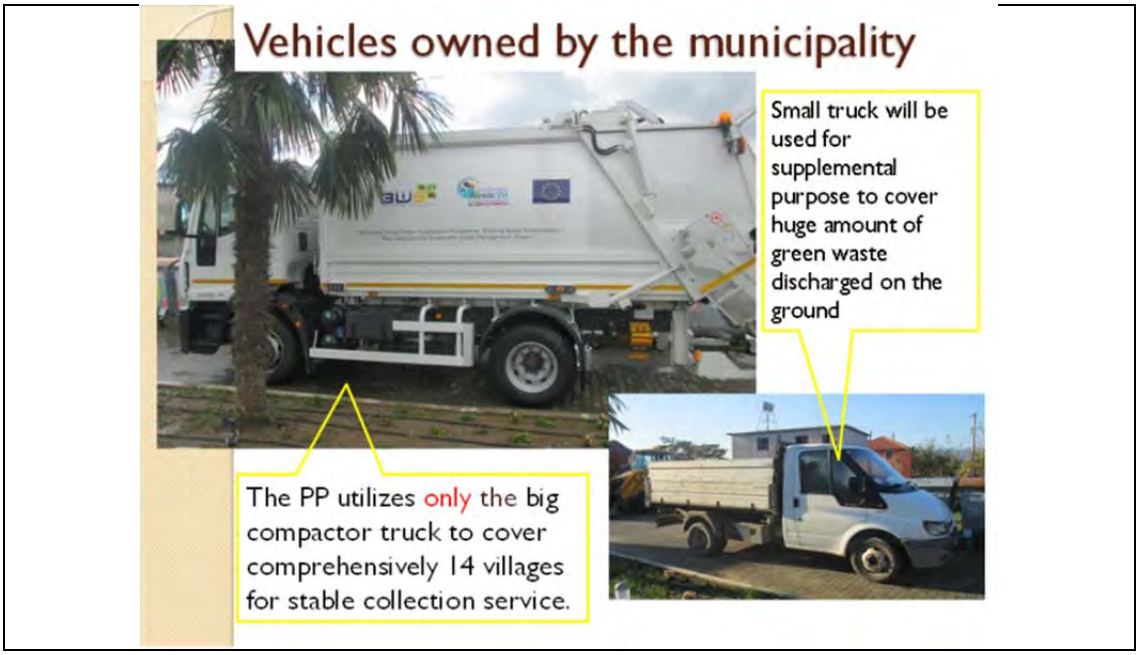


Figure 6: Vehicles owned by the municipality

At the start of loading waste	After 20 minutes of loading
After 30 minutes of loading	After 45 minutes

Figure 7: An example of the situation of waste collection work

It took 45 minutes to clear up only one container. Not all containers are in such condition, but containers in problematic condition are not uncommon.

The PP progress revealed that regular collection service with a compactor truck is more effective than service with a small truck. However, it is still indispensable to change the discharging manner of the residents to maximize efficiency.

It is assumed to take only about 5 minutes to complete clearing one container if all waste is discharged into the container.

C. Summary of recorded data

C.1 Collection amount and cost

Table 13: Monthly collection record (Compactor truck)

Monthly Data	Nov	Dec	Jan	Feb	Mar	Apr	* May	Average /month
	1st - 30th	1st - 31st	1st - 31st	1st - 29th	1st - 31st	1st - 30th	1st - 31th	-
Total days	30	31	31	29	31	30	31	30.4
Total regular days*	21	23	21	21	23	21	22	21.7
Total worked days	18	20	20	25	24	26	21	22
Trips	26	31	29	36	36	35	25	31.1
Distance covered	851 km	843 km	1,015 km	1,023 km	1,298 km	1,229 km	952 km	1,030 km
Hours operated	102.0 hours	103.0 hours	108.0 hours	125.0 hours	131.0 hours	143.0 hours	104.0 hours	116.6 hours
Containers covered	1,007	1,068	1,021	1,173	1,190	1,169	849	1,068
Weight collected	98,620 kg	137,347 kg	120,120 kg	123,320 kg	148,290 kg	145,120 kg	121,160 kg	127,711 kg
Efficiency (kg/hour)	967 kg	1,333 kg	1,112 kg	987 kg	1,132 kg	1,015 kg	1,165 kg	1,095 kg
Efficiency (containers/km)	1.18 cons	1.27 cons	1.01 cons	1.15 cons	0.92 cons	0.95 cons	0.89 cons	1.04 cons
Efficiency (mins/container)	6.1 mins	5.8 mins	6.3 mins	6.4 mins	6.6 mins	7.3 mins	7.3 mins	6.5 mins
Efficiency (containers/hour)	9.9	10.4	9.5	9.4	9.1	8.2	8.2	9.2
Average (kg/trip)	3,793 kg	4,431 kg	4,142 kg	3,426 kg	4,119 kg	4,146 kg	4,846 kg	4,106 kg
Fuel Consumption (Leke)	96,445	80,100	90,000	98,550	78,400	101,060	-	90,759
Fuel Consumption (litter)	580	479	590	616	542	720	-	588
Unit rate (Litter/ton)	5.9	3.5	4.9	5.0	3.7	5.0	-	4.6
Unit rate (Leke/ton)	978	583	749	799	529	696	-	711

*For May, only collection records submitted by the municipality are reflected on the table above since collection service was conducted in the ranges of the PP scope and there is no record on fuel.

Table 14: Monthly collection record (Comparison between compactor truck and small truck)

Monthly average	Compactor truck (Nov-May)	Open dump truck (Nov-Mar)
Trips	31.1	**9.4
Distance covered	1,030 km	-
Hours operated	116.6 hours	-
Containers covered	1,068	-
Weight collected	127,711 kg	**25,677 kg
Average (kg/trip)	3,930 kg	**2,732 kg
Fuel consumption (Price, Leke)	90,759	*18,600
Fuel consumption (litter)	588	*121.1
Unit rate (Liter/ton)	4.6	*5.4
Unit rate (Leke/ton)	711	*836

**The data includes the clean-up operation for huge piles of accumulated green waste which was conducted by the municipality in November.
*The data is from the clean-up operation record of a four-month period from December until March, and the fuel was used for a wheel loader as well as trucks during the said period.

Table 15: Daily collection record

	Compactor	Compactor	Open dump truck
Daily data (Nov-May)	Per worked days	Per total days	Per total days
Trips	1.41	1.02	0.31
Distance covered	47 km	34 km	-
Hours operated	5.3 hours	3.8 hours	-
Containers covered	49	35	-
Weight collected	5,805 kg	4,201 kg	845 kg
Fuel Consumption (Leke)	4,125	2,986	-
Fuel Consumption (litter)	27	19	-

- Compactor truck (CT) collects 128 tons of municipal waste from 1068 containers per month on average, making 31.1 trips.
- 308 containers have been installed in Bushat AU, and this results in a collection frequency of approximately 3.5 rounds (1067/308) per month per container.
- An open dump truck (ODT) is generally used for supplementary purposes to collect mainly massive amounts of agricultural waste heaped on the ground which are difficult to be collected by CT. In such cases, heavy machinery such as a wheel loader is used for loading waste since manual loading with a hand-shovel is very challenging.
- Whereas the schedule is not particularly regulated, the tendency thus far observed is that an intensive clean-up operation is conducted one or two days per month to collect such heaped waste.
- The result is that ODT collects, on a monthly average, 25.7 tons of waste – mostly agricultural waste – scattered beside containers, which requires 9.4 trips per month.
- 90,760 Leke is needed monthly for the fuel cost of CT. It can be converted into ton-based cost at 711 Leke/ton.
- 18,600 Leke is needed monthly for the fuel cost of ODT and heavy machinery. That is translated to 836 Leke/ton.
- 109,360 Leke for fuel cost and 100,000 Leke for the salaries of three workers are needed

per month. In total 209,336 Leke/month is needed as direct costs for waste collection work in Bushat AU. Furthermore, repair & maintenance, depreciation and landfill tipping fee etc. are needed in addition to the above direct cost.

C.2 Frequency of waste collection in each village

Table 16: Frequency of waste collection in each village

A	B	C	D	E	F
No.	Village	Population	Number of container	Average times of day collected per month	E/4 (Weekly Avg)
1	Bushat	2,040	81	7.0	1.8
2	Shkjeze	1,048	15	3.8	0.9
3	Pleshe	638	10	2.8	0.7
4	Stajke	2,327	34	4.5	1.1
5	Ashte	687	15	2.5	0.6
6	Kosmace	2,316	28	4.3	1.1
7	Melgushe	2,063	43	4.3	1.1
8	Konej	396	7	3.3	0.8
9	Rranxa	1,934	17	3.5	0.9
10	M.Jushit	660	0	0.0	0.0
11	F.Ri	699	6	3.8	0.9
12	Barbullush	2,582	41	4.8	1.2
13	Hoten	317	0	0.0	0.0
14	Kukel	389	7	4.0	1.0
15	Trush	N/A	4	1.3	0.3

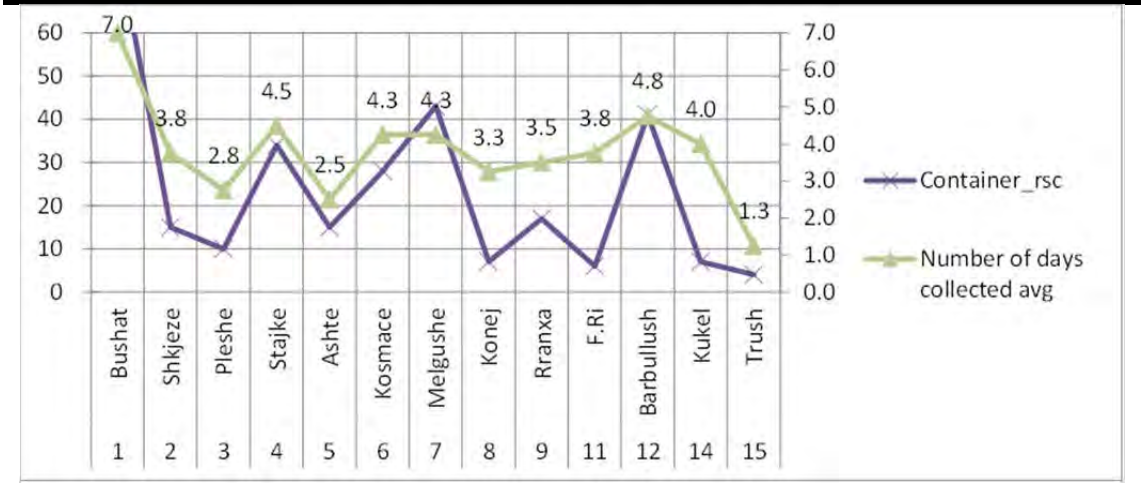


Figure 8: Number of containers and frequency of waste collection in each village

- On a monthly basis, Bushat village, with seven collections (days) per month, had the most frequent collections among all villages. For other villages, the frequency is generally around four times per month while the second largest village, Barbullush village, had about five collections per month.
- The above fact indicates Bushat village's collection frequency is roughly two times/week while others are about once a week, when monthly data is simply divided by 4 to see the weekly average. (*It is assumed that Barbullush village would require a higher frequency of collections if it takes the overall amount of waste including agricultural waste heaped on ground into consideration, since the village contains a lot of such kind of places with accumulated waste.)
- After the number of containers installed in each village and collected times are plotted

on the graph, it can be seen that three villages, Konaj, Fshati i Ri and Kukel are provided service with relatively high frequency, where fewer containers are installed than other villages. It can be roughly assumed that the number of installed containers may be insufficient for the amount of generated waste in these villages or the collection frequency may be too high while they might generate a small amount of waste. It may be worth considering in more detail. If the situation were the latter, the collection frequency could be reduced.

C.3 Monthly cost for comprehensive waste collection service

- Basic salary for a waste collection work team, consisting of a driver and two workers, is 100,000 Leke
- The fuel cost for collection with a compactor truck is 90,759 Leke (128 ton x 711 Leke per ton)
- The fuel cost for collection with an open dump truck is 18,600 Leke
- Thus, 209,359 Leke is the total direct cost. Thus, 230,295 Leke would be the monthly cost needed for waste collection and transportation after the direct cost is added together with the indirect cost, which is 10 % of the direct cost.

Table 17: Concluded summary of expense to be required per month

Items	Salary	Fuel for Compactor Truck Collection	Fuel for Dump Truck Collection	Total
Direct cost (Leke)	100,000	90,759	18,600	209,359
Indirect cost (correction factor, 10% of direct cost) (Leke)	10,000	9,076	1,860	20,936
Grand Total (Leke)				230,295

3.3.3 Phase 2, Improvement of discharging manner and separation of agricultural waste

A. Table of summary

Table 18: Summary of Phase 2

Phase 2 (January – December, 2016)	
Title	To establish an appropriate waste discharging system which citizens will accept and follow.
Target area	Barbullush, Rranxe, Bushat
Target points	In the above three villages, discharging points dedicated for agricultural waste (four places)
Issues	Improper discharging manner of citizens has lowered the collection efficiency. In particular, serious problems are the following: general waste is scattered on the ground without being discharged into containers; and massive amounts of agricultural waste are discharged besides the containers.
Objective	• First of all, it introduces a suitable model of basic waste discharging rules for Bushat AU's situation to improve the people's cooperation and waste discharging manner. Also, the activity should be used for examining the possibility of improving waste collection efficiency. • In addition to that, activities carried out that try to separate the

	agricultural waste from the general waste should provide information for figuring out a way of waste reduction in both short-term and long-term.
Goals	1. In Bushat AU, discharging points dedicated for agricultural waste are established in places where the problem is especially noticeable. (The discharging points are also installed with general waste containers) 2. Residents follow the discharging manner of waste separation in which 1) general waste shall be discharged inside the container, 2) agricultural waste shall be discharged at a dedicated place (presumably it would be a large container) 3. Consequently waste collection efficiency is improved
Procedure	1. To identify especially problematic places in terms of discharging manner and select pilot points. 2. To formulate the appropriate discharging method for agricultural waste (It was decided to apply the method of installing a large-size container after the study and discussions) 3. In parallel to no. 2 above, to approach residents who will possibly be covered in the scope of the PP to set up meetings for the purpose of exchanging ideas and notifying the residents of the separation system 4. To commence a separated waste discharging system after the discharging points are physically established 5. Furthermore, to monitor the progress and situation while enhancing public awareness at the same time
Evaluation	1. Discharging points dedicated for agricultural waste are established 2. Residents follow discharging manner to separately discharge agricultural waste 3. The efficiency and cost of separated collection service for agricultural waste is figured out

B. Situation of implementation

B.1 Typical situation of improper discharging manner

Figure 9: Typical situation of improper discharging manner

B.2 Activity for notification to residents before commencement

Explaining the discharging rules during a visit to an ordinary household

Explaining a teacher of the school in front of the PP site

The leaflet on discharging rules

Figure 10: Activities for explanation to residents

B.3 Situation after commencement

Pilot discharging site installed with containers

Lifting a large container

	
Right after commencement, the waste is discharged and is overflown on the ground	Right after commencement, the waste is discharged on the ground
	
Barbullush (BEFORE)	Barbullush (AFTER)
	
Rranxe (BEFORE)	Rranxe (AFTER)
	
Bushat South (BEFORE)	Bushat South (AFTER)

Figure 11: Situation after commencement of phase 2

C. Waste collection record

C.1 Record of large container

Table 19: Record of large container for agricultural waste

Month, 2016	Number of Trips	Total weight transported (kg)	Target villages
Mar	2	2,720	Barbullush, Rranxe (started from middle of the month)
Apr	5	11,320	Barbullush, Rranxe
May	4	5,800	Barbullush, Rranxe
Jun	4	7,400	Barbullush, Rranxe
Jul	7	9,740	Barbullush, Rranxe
Aug	8	9,520	Barbullush, Rranxe
Sep	8	9,900	Barbullush, Rranxe
Oct	8	9,140	Barbullush, Rranxe
Nov	9	15,503	Barbullush, Rranxe, Bushat
Dec	7	7,770	Barbullush, Rranxe, Bushat
Monthly Average	6.3	8,974	Mar, Nov and Dec were excluded from the calculation due to unstability

3.3.4 Phase 3: On-site composting

A. Table of summary

Table 20: Summary of Phase 3

Phase 3 (September – December, 2016)	
Title	To identify the challenge for establishing an appropriate method for waste reduction
Target area	Barbulush, Rranxe
Target Scope	Households who are practically carrying out action for composting
Issues	It has been observed through phase 2 that a significant amount of agricultural waste is discharged and causes problems. So far the municipality transports such kind of waste to landfill site. It would be ideal if citizens would not discharge agricultural waste and instead use it for self-disposal such as composting.
Goals	1. Sketch out the on-site composting model that is being practiced at the area 2. Identify the challenges to popularizing the model sketched out above.
Procedures	1. Check citizen's current practical composting situation and confirm their willingness to participate through household-visit survey 2. Periodically observe practical composting of houoseholds that replied that they usually compost 3. Based on the above observations, sketch out an on-site composting model that is commonly available 4. Identify the challenges and feasibility for dissemination based on the results of the above interviews and other discussions
Evaluation	1. Interview survey regarding on-site composting is conducted 2. Households who carry out composting are identified and a practical model is figured out 3. Challenges for dissemination of the model are identified

B. Context

As the following photos indicate, massive amounts of green waste were discharged. Presently, the municipality transports and landfills the waste. But it is ideal if people would not discharge this kind of waste and instead dispose it by themselves, i.e. composting.

C. General composting theory

	On-site Composting	Off-site Composting
General	• It is takes place at the generation source (mainly households) of target waste which is usually on a small-scale at many places. In principle, it should be based on voluntary action by citizens instead of municipal administrative operation.	• It takes place at a dedicated site on a large scale where only target waste is carried into the site. The municipal administration usually organizes the operation.
Advantage	• Few burdens for the municipal finance of the operation • Effective for the reduction of transported amount as well as the landfilled amount	• Highly effective for the reduction of landfilled amount since it is intensively treated
Disadvantage	• Dissemination is limited (not so popular) among households and thus it is less effective for reduction of landfilled amount • It requires efforts from the municipality to disseminate it to the households	• Ineffective to reduce the transported amount and furthermore costs are incurred for separate collection • The operation burdens the municipality • Separation of the target waste is required

D. On-site composting

The PP focused on On-site composting because Off-site composting operations burden the municipal administration and there is still a problem of waste transportation, that is, the amount of waste collected needs to be reduced.

D.1 Good example in Barbullush village

	
27 September	17 October
	
11 November	15 November
	
21 November	Mar 2017

D.2 Good example in Rranxe village 1

	
29 September	17 October, mixed with manure waste
	
11 November	13 November
	
25 November, mixed with manure waste	4 December

	
24 December	13 March, 2017. All compost has been applied on arable soil
	
BEFORE the winter (29 Sep 2016); maize and vegetables are grown	AFTER the winter (13 Mar 2017); agricultural waste from harvest was composted and applied on the soil, beginning the agricultural circulation.

D.3 Good example in Rranxe village 1

	
14 June	17 October

	
11 November	15 November, other side of composting
	
15 November	19 November
	
9 December	13 March, 2017

E. Findings

On-site composting, as seen through the observation of PP, is an extremely important practical application for the reduction of waste in Bushat, where a massive amount of organic waste is discharged. Yet the number of people who agree with or perform composting is quite limited so far. Therefore, further dissemination of such actions is an inevitable challenge for the next period.

For solutions, it is expected that measures will be taken such as regulation by the municipality that gives waste tax exemption to composting households or initiation by the central authority will be taken to control the discharging of agricultural organic waste nation-wide.

3.3.5 Conclusion

A. Conclusive summary of PP

Phase 1	Phase 2	Phase 3
• The PP boosted generalization for waste collection service through compactor collection that covers 300 small containers. After the PP ends, the service continues to be conducted. Collection is usually done once a week for each container. • However, the PP revealed the problem of the compactor collection system as massive amount of waste (mainly organic waste) discharged beside the container is observed.	• Then large containers dedicated for organic waste have been installed to solve the problem. The PP was also placed with the role of observing waste quality and the level of people's cooperation to assist in the reduction of waste for the next step. • The result was that the sites are very cleanly maintained and waste collection efficiency has improved. Although the phase 1 problem has been fixed, phase 2 revealed the next challenge and the necessity to reduce the waste to be transported where the municipality must transport organic waste discharged in massive amounts.	• Off-site composting is not able to reduce the waste amount to be transported. This is the reason why On-site composting fits the needs of municipalities that have a problem with waste transportation, as On-site composting reduces the transported amount. • Thus, the PP focused on On-site composting. Several methods of composting have been observed through good practices learned through PP survey. • Through the PP it is learnt that expansion of composting is essential for efficient waste transportation and promotion of 3R. The municipality and central authorities are urged to work on that together.

Waste category	Transportation category	2014 (Before PP)	2016 (Midst of PP)	2018 (Future example)
Supposed general waste	Municipal Compactor (PP1)	27.5 ton/month	127.7 ton/month	127.7 ton/month
	Inter-communal Compactor	42.0 ton/month	0.0 ton/month	0.0 ton/month
Supposed agricultural waste excluding 2014	Municipal Open Truck	33.3 ton/month	16.7 ton/month	0.0 ton/month
	Large Container Truck (PP2)	0	9.0 ton/month	25.7 ton/month
	Total	102.8 ton/month	153.4 ton/month	153.4 ton/month

PP1 served to unify the transportation system and increase the transported amount of waste. PP2 served for demonstrating the feasibility of large container system

4 Activities for Output 4 (Cerrik Municipality)

4.1 Overview of PP for 3R at Cerrik Municipality (hereafter 3R-PP)

The following two PPs have been implemented in Cerrik AU to examine the possibility of promoting 3R in Cerrik municipality which has been selected as a pilot middle-scale municipality.

- PP 1: Improvement of discharge and collection system for MSW in rural area
- PP 2: Separate collection system for recyclables from generation sources

4.1.1 Background of PP

In the rural area of Cerrik AU, there are houses and settlements scattered over the area and the collection vehicle cannot access the inner area of the neighborhood. Concrete-made collection points were installed at the corners of the entrances of the main road to the neighborhood, and the waste collection was conducted by a horse cart inefficiently. Moreover, at these points wastes were discharged by people other than the residents of the neighborhood and such waste was scattered around the points.

On the other hand, the former Cerrik Municipality used a corner of agricultural land in the town area as their final disposal site, but considering its environmental impacts on the surrounding environment, the new Cerrik Municipality has shifted the final disposal site to the riverbed located in Mollas AU. However, there have not been any measures taken for environmental consideration of the disposal site. The long distance from Cerrik AU (10 km away) is also an issue. Under such circumstances, it is urgently needed to implement safe and efficient waste management by minimizing the amount of waste disposal as much as possible.

4.1.2 Overview of PP

A. PP for improvement of discharge and collection system for MSW in rural area

An improvement of waste collection in rural areas has been expanded according to the following three steps:

- First step: A door to door collection system has been introduced in pilot Project (PP) area that is a part of Neighborhood 3, Ferme, to improve the previous collection system in which waste was discharged at concrete based discharge points and collected by horse-cart. The PP commenced on February 18, 2016.
- Second step: Door to door collection has been expanded to another PP area in Neighborhood 3, Ferme, where container collection system has been provided. The door to door collection system has been expanded from April 14, 2016.
- Third step: Door to door collection system has been expanded to Kantier in Neighborhood 3 where container collection system has been provided from August 2016.

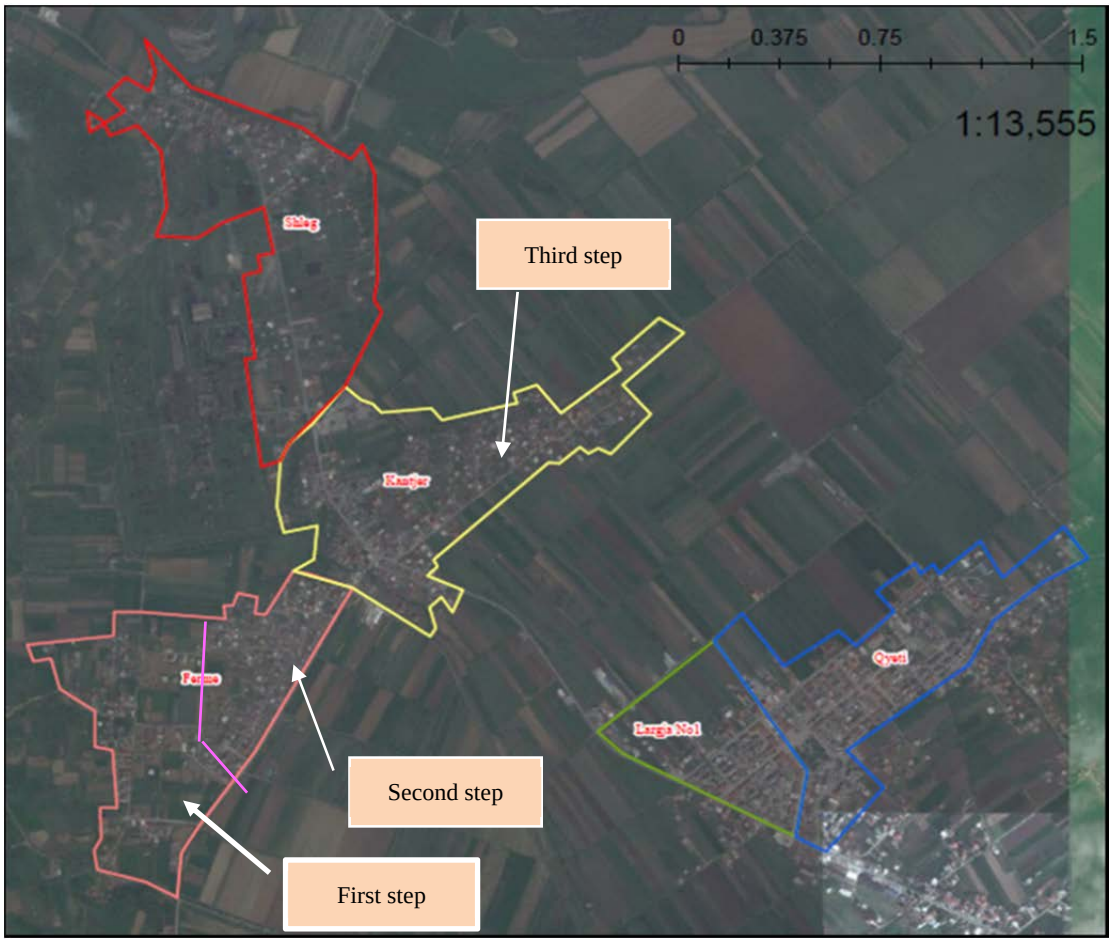


Figure 12: Expansion of PP area for improvement of discharge and collection system

The outline of the PP for Improvement of discharge and collection system for MSW in rural areas is shown below.

A.1 First step: Initial Plan of PP

Table 21: PP for improvement of discharge and collection system for MSW in rural area (First step)

Items	Contents
1.1 Outline of PP	• Removal of the concrete-made discharge points and commencement of door-to-door collection. • Introduction of separate collection of the recyclables after confirming the door-to-door collection is accepted by the community.
1.2 Target area	• Neighborhood 3 (a part of Ferme)
1.3 Management system for collection	• Managed by the municipality • Collection truck (prepared by municipality) with sound system
1.4 Discharge and collection system	• Discharge time: 30 minutes before or upon the arrival of the collection vehicle • Collection schedule: starting from 7:00 am • Waste discharge/collection place: the waste is to be placed in front of each house or discharged on to the collection truck directly. • Collection classification and schedule 【until March 2016】

<table>
<tr><td></td><td>
<table>
<tr><td>Classification</td><td>Mon</td><td>Tue</td><td>Wed</td><td>Thu</td><td>Fri</td><td>Sat</td><td>Sun</td></tr>
<tr><td>Non-recyclables</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
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【after April 2016】
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<tr><td>Recyclables</td><td></td><td></td><td>✓</td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>1.5 Container for discharge</td><td>• In principal, any type of discharge container (plastic bag, carton box, sack, bucket, etc.)</td></tr>
<tr><td>1.6 Awareness raising / instruction / monitoring</td><td>• Prior to commencement of collection: Explanation to the citizens in the target area with leaflets (house-to-house)
• After commencement of collection: awareness raising according to the situation</td></tr>
</table>

A.2 Second step: Expansion of PP to entire Ferme area

Table 22: PP for improvement of discharge and collection system for MSW in rural area (Second step)

Items	Contents
1.1 Outline of PP	• Removal of containers installed in Ferme area and commencement of door-to-door collection. • Introduction of separate collection of the recyclables at the same time as commencement of door-to-door collection.
1.2 Target area	Entire Ferme area in Neighborhood 3
1.3 Management system for collection	• Same system as the first step
1.4 Discharge and collection system	• Same system as the first step
1.5 Container for discharge	• Same system as the first step
1.6 Awareness raising / instruction / monitoring	• Same system as the first step

A.3 Third step: Expansion of PP to entire Ferme and Kantier area and improvement of discharge and collection system

The situation of residential participation for separate/collection of recyclables is poor in Kantier and Shelg areas (route D) in Neighborhood 3. The reason for this is that there are two collection systems provided in these areas; one is a container collection system for normal waste another is a bell collection system for recyclables. It was found that, as mentioned above, there was little awareness among residents to separate recyclables.

When the municipality considered improvement of the collection system, it was decided to change the container collection system. Therefore, to improve the situation of residential participation, the collection system for normal waste in Kantier area will be changed from container collection system to door to door collection system, the same as route C.

When introducing the above mentioned new collection system, it will be necessary to implement the following counter measures:

- A reduction in fuel consumption will be realized through a reduction in transportation frequency. This will happen by combining routes C and Kantier area on the same collection day.
- Collection day for recyclables will be established the same day as normal waste collection day. However, recyclables will be loaded separately to normal waste. Furthermore, after recyclables are collected with general waste, it is necessary to analyze future monitoring data to see whether the awareness of residents to separate and discharge has decreased.
- The leaflet will be distributed to residents to obtain cooperation and understanding for the new collection system.

Table 23: PP for improvement of discharge and collection system for MSW in rural area (Third step)

<table>
<tr><th>Items</th><th>Contents</th></tr>
<tr><td>1.1 Outline of PP</td><td>• Removal of containers installed in Kantier area and commencement of door-to-door collection.
• To reduce fuel consumption, collection service is provided the same day in Ferme and Kantier areas and transportation time to disposal site is reduced.
• Separated recyclables are collected on same day as non-recyclables and collection day for recyclables is discontinued.
• Collected recyclables are segregated on the truck and stored in garbage bins with wheels installed on the truck.</td></tr>
<tr><td>1.2 Target area</td><td>Entire Ferme and Kantierarea in Neighborhood 3</td></tr>
<tr><td>1.3 Management system for collection</td><td>• Same system as first step</td></tr>
<tr><td>1.4 Discharge and collection system</td><td>【After August 2016】
<table>
<tr><td>Classification</td><td>Mon</td><td>Tue</td><td>Wed</td><td>Thu</td><td>Fri</td><td>Sat</td><td>Sun</td></tr>
<tr><td>Non-recyclables</td><td>✓</td><td></td><td>✓</td><td></td><td>✓</td><td></td><td></td></tr>
<tr><td>Recyclables</td><td>✓</td><td></td><td>✓</td><td></td><td>✓</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>1.5 Container for discharge</td><td>• Same system as the first step</td></tr>
<tr><td>1.6 Awareness raising / instruction / monitoring</td><td>• Same system as the first step</td></tr>
</table>

B. PP for separate collection system for recyclables from generation sources

A separate collection system for recyclables has been improved according to the following two steps:

- First step: A separate collection PP for recyclables has been implemented for the entire Cerrik AU from 4th of April, 2016.
- Second step: It was found that awareness of residents for separate recyclables at

Neighborhood 1, 2 (route A and B) is low because two collection systems are provided in those areas; one is a container collection system for normal waste and another is a bell collection system for recyclables. The following improvements have been implemented since August 2016:

- The entire separate collection of recyclables in Neighborhood 1, 2 (route A and B) was temporarily discontinues.
- New separate/collection system for recyclables, which takes into consideration collection route, collection points and time, was commenced concentrating on block A, which consists of 250 households and 10 block apartments.
- In rural areas, separated recyclables are collected as well as non-recyclables and collection day for recyclables is discontinued. Collected recyclables are segregated on the truck and stored in the garbage bins with wheels installed on the truck.

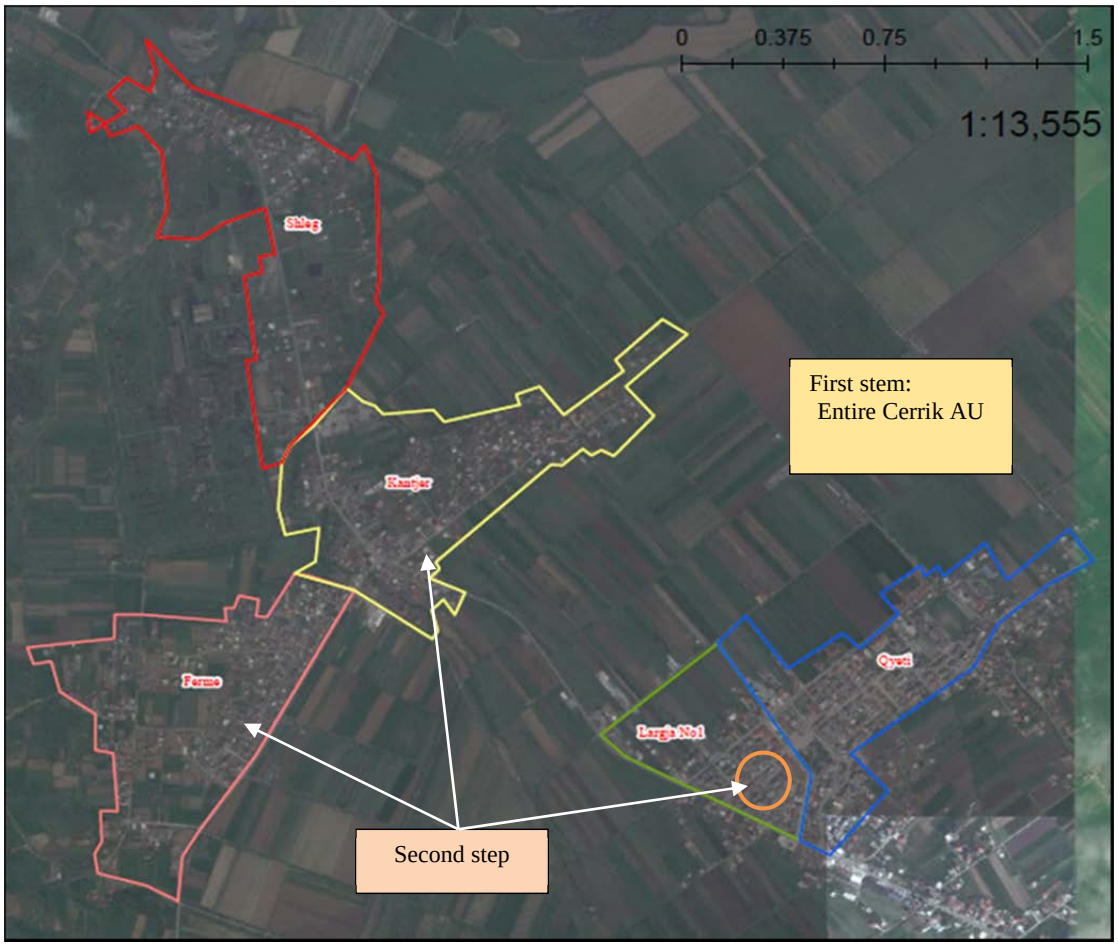


Figure 13: Change of a separate collection area and system for recyclables

The outline of the PP for Separate collection system for recyclables from generation sources is shown below.

B.1 First step: Previous PP plan

Table 24: PP for separate collection system for recyclables from generation sources in first step

Items	Contents
2.1 Target area	• Entire Cerrik AU area (Neighborhood 1, 2, 3)

<table>
<tr><td>2.2 Implementation system</td><td>• Managed by the municipality
• Appointment of two collection crews (1 driver + 1 worker)</td></tr>
<tr><td>2.3 Target recyclables</td><td>PET, hard and soft plastics, steel/aluminum cans, other metals</td></tr>
<tr><td>2.4 Discharge system of recyclables</td><td>• Discharge container: any types of discharge container in principle (plastic bags, etc.)
• Discharge method: bring out when collection truck comes playing music.
• Discharge time: in the morning of designated day of the week in respective zone of the neighborhood
• Discharge place: onto the collection truck in principle.</td></tr>
<tr><td>2.5 Collection system of recyclables</td><td>• Collection points: near the communal containers installed for waste collection, near the crossroads and near an entrance to an apartment building from the paved road.
• Bell collection system: collection truck comes playing music and announcement for recyclables collection and stops at the designated collection points to collect recyclables brought out by residents and shops.
• Collection frequency: once /week
• Sorting of the recyclables will be done after collection from households.
• Collection schedule by each zone
<table>
<tr><td>zone</td><td>Mon</td><td>Tue</td><td>Wed</td><td>Thu</td><td>Fri</td><td>Sat</td><td>Sun</td></tr>
<tr><td>A: Neighborhood 1, 2 West</td><td>✓</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>B: Neighborhood 1, 2 EAST</td><td></td><td>✓</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>C: Neighborhood 3 Ferme</td><td></td><td></td><td>✓</td><td></td><td></td><td></td><td></td></tr>
<tr><td>D: Neighborhood 3 Kanher, Shelg</td><td></td><td></td><td></td><td></td><td>✓</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>2.6 Collection equipment</td><td>• An open truck (2t)
• Sound system, gunnysacks for collecting the recyclables, etc.</td></tr>
<tr><td>2.7 Storage of recyclables</td><td>• Storage / warehouse(with a space for sorting)</td></tr>
<tr><td>2.8 Income / expenditure incurried from separate collection of recyclable</td><td>• Income: Σ[(amount of the recyclable)×(unit rate)]
• Expenditure: salary for collection crew, fuel and maintenance cost for collection vehicle(s)
• Management and usage of gain from sales of collected recyclables</td></tr>
<tr><td>2.9 Awareness raising/ instruction/ monitoring</td><td>• Before commencing collection: explanation of system with distribution of leaflets or any other tools through house to house visits.
• After commencement: periodical awareness activity (Reporting monitoring result, recycled amount, income, and other facts to the citizens)</td></tr>
</table>

B.2 Second step: Revision of implementation areas and system

Table 25: PP for separate collection system for recyclables from generation sources in the second step

Items	Contents
2.1 Target area	• In urban areas, separate/collection of recyclables is commenced at block A, a concentrated area consisting of 250 households and 10 block apartments. • In rural areas, the entire area of Ferme and Kantier in Neighborhood 3continuously receive collection services with separate collection of recyclables.

<table>
<tr><td>2.2 Implementation system</td><td>• Same system as the first step</td></tr>
<tr><td>2.3 Target recyclables</td><td>• Same system as the first step</td></tr>
<tr><td>2.4 discharge system of recyclables</td><td>• Same system as the first step</td></tr>
<tr><td>2.5 Collection system of recyclables</td><td>• Same system as the first step</td></tr>
<tr><td>2.6 Collection schedule</td><td>
<table>
<tr><th>Area</th><th>Mon</th><th>Tue</th><th>Wed</th><th>Thu</th><th>Fri</th><th>Sat</th><th>Sun</th></tr>
<tr><td>Neighborhood 1, 2 (Block A)</td><td></td><td>✓</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Neighborhood 3 Ferme, Kantier</td><td>✓</td><td></td><td>✓</td><td></td><td>✓</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>2.7 Collection equipment</td><td>• Same system as the first step</td></tr>
<tr><td>2.8 Storage of recyclables</td><td>• Same system as the first step</td></tr>
<tr><td>2.9 Income / expenditure incurring from separate collection of recyclable</td><td>• Same system as the first step</td></tr>
<tr><td>2.10Awareness raising/ instruction/ monitoring</td><td>• Same system as the first step</td></tr>
</table>

4.2 Results of PP

4.2.1 PP for improvement of discharge and collection system for MSW in rural areas

Expected effects, method to evaluate and evaluation indicator for improvement of discharge and collection PP are shown below.

A. Expected effects

- Improvement of the quality of waste collection service by provision of collection service on determined date and time.
- Improvement of the appropriate discharging manner according to the discharging rule.
- Improvement of of waste littering conditions.

B. Method to evaluate

- Monitoring survey
- Questionnaire survey

C. Evaluation indicator

Table 26: Evaluation indicator

Expected results	Evaluation indicator
1. Quality of waste collection service is improved by provision of collection service at determined date and time.	• Measure the time of beginning, end of collection service as well as the time collected at each point through monitoring. • Residents' satisfaction rate by public interview survey
2. Improvement of the appropriate discharging manner according to the discharging rule	• Count the number of discharging bags through monitoring to see if it they are appropriate.
3. The situation of waste littering is improved.	• Visual observation of the conditions of former concrete made discharge place to identify inappropriate discharging through monitoring survey • Residents satisfaction rate for waste littering improvement by public interview

D. Result of PP

D.1 To improve the quality of waste collection service by provision of collection service on determined date and time.

D.1.1 Provision of accurate collection time

There are two types of households in the PP area. One type of household discharges waste in front of house before the collection truck comes. The other type of household has to bring out waste to the collection points because of a narrow road that prevents the collection truck from entering the area. Therefore, door to door collection is required to provide service at designated times.

As shown in the figure below , the collection almost always starts at 7:00 am and collection service is almost always provided in the designated time zone every collection day. When such accurate collection service is provided, confidence of residents towards collection service is obtained. Door to door collection area has been expanded from 14 of April 2016.

A collection area was expanded further, the second step, from 4 of April 2016. The collection service was almost always provided at accurate times. From August, a collection area was expanded to the third step and collection frequency was reduced from five times to three times per week. Because of this, collection working time took longer than before and it became somewhat difficult to provide service with accurate timing. However, since October the new thrice-weekly collection service became normalized meaningaccurate timing of collection service was restored.

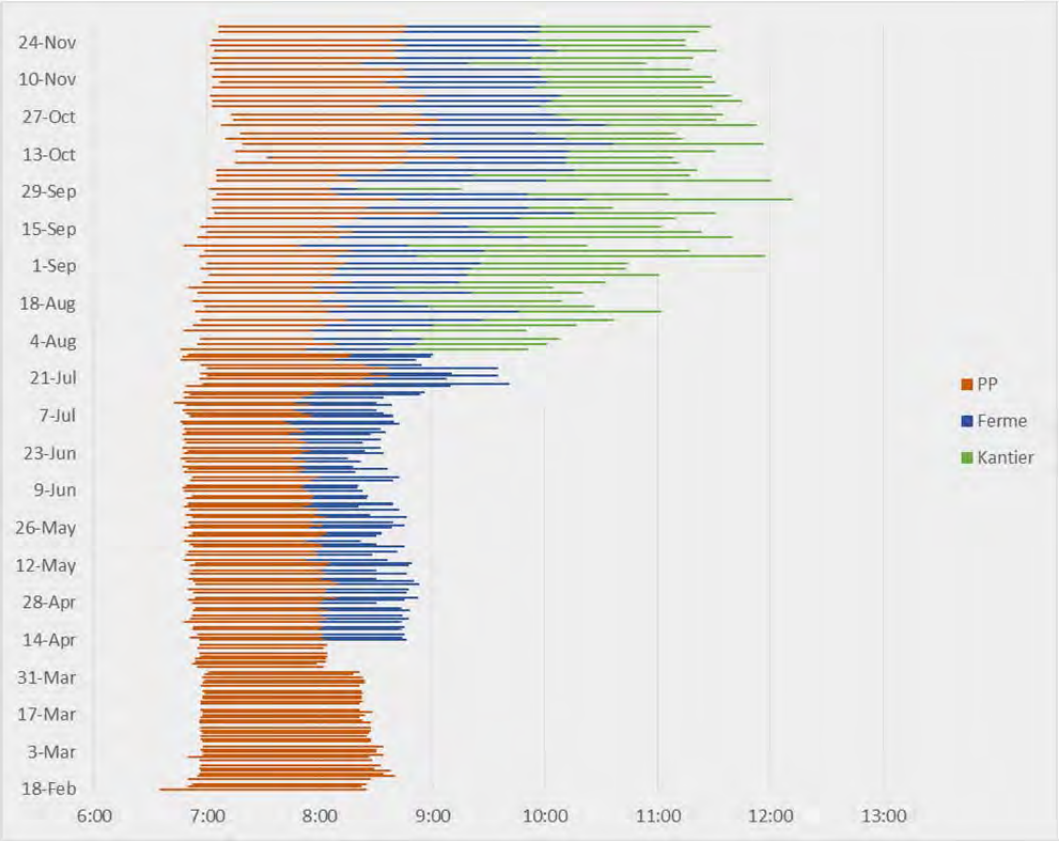


Figure 14: Collection time

D.1.2 Satisfaction of residents regarding collection service

Households to be surveyed by questionnaire were selected from each step of expansion area to grasp the situation of improvement.

At the beginning, the question about frequency of waste discharge for door to door collection was asked. The percentage of households which discharged waste almost every collection day was 100% in the first and second step areas and 85% in the third step area.

Next, a question was asked whether the respondent is satisfied with door to door collection. 97.5 % of respondents replied they are very satisfied or satisfied.

According to the respondents, reasons for satisfaction of door to door collection were as follows: 67.5% of respondents replied that waste discharge point is closer than before; 20% answered collection frequency and time has been accurate;, and 12.5% of respondents who are living in the step 3 area replied littering waste has decreased.

On the other hand, reasons of dissatisfaction for door to door collection were as follows: 62.5% of respondents replied that waste discharge time and collection days have been limited; 15% pointed out scavenging by dogs; and 10% answered they have not been able to discharge garden waste (generated occasionally) to the collection point.

As mentioned above, the door to door collection system introduced in rural areas to improve collection service is recognized as an acceptable collection system in rural areas although the collection time and days are limited.

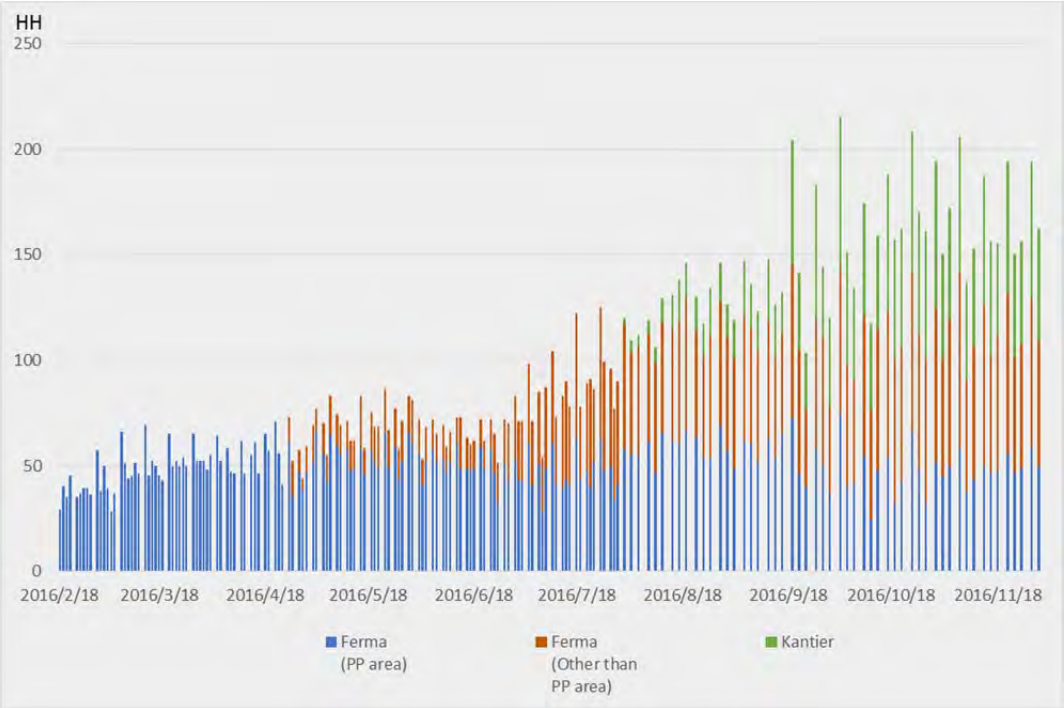


Figure 15: Change of number of households discharging to door to door collection service

D.2 Improvement of the appropriate discharging manner according to the discharging rule

D.2.1 Improvement of discharge manner

Number of households in PP area which discharge waste before the collection truck comes or at the same time the collection truck comes is shown in Table 16. Because collection service is reliably provided at the desingated time, residents can recognize their own waste collection time. Thus, the number of households which discharge waste before the collection truck comes are increasing.

The number of households which discharge waste in the extended PP area in Ferme and Kantier are shown in the figures below. As with the PP area commenced from the beginning, the number of households in both expanded areas which discharge waste before the collection truck comes are increasing.

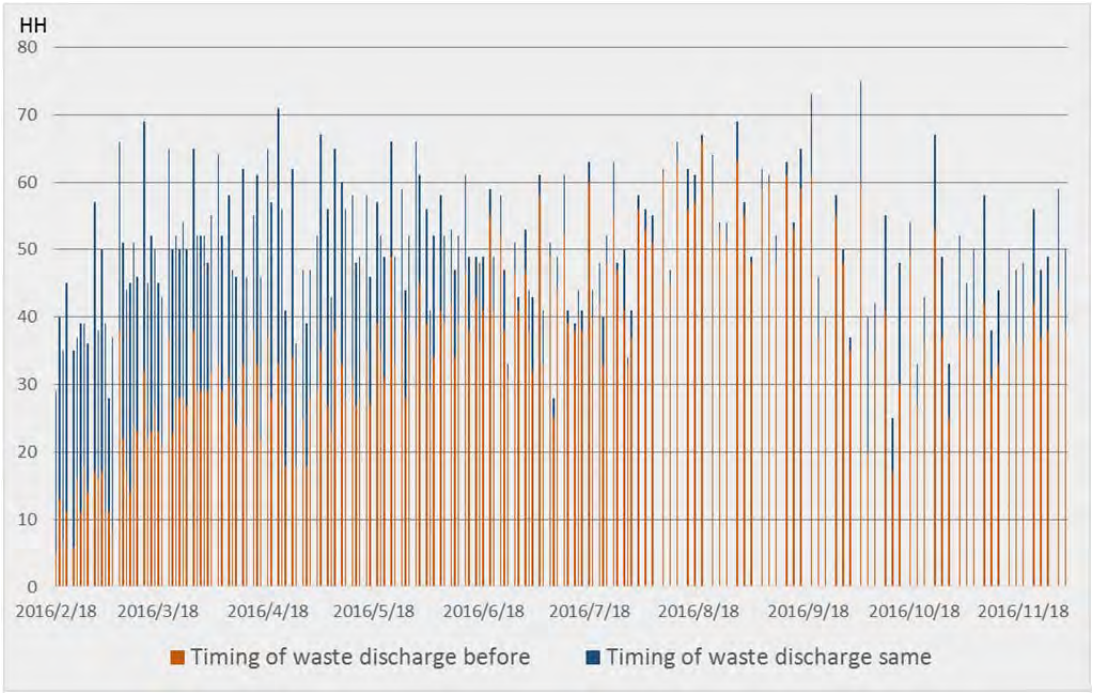


Figure 16: Change of number of households discharging to door to door collection service in part of Ferme area where PP was commenced from the beginnin

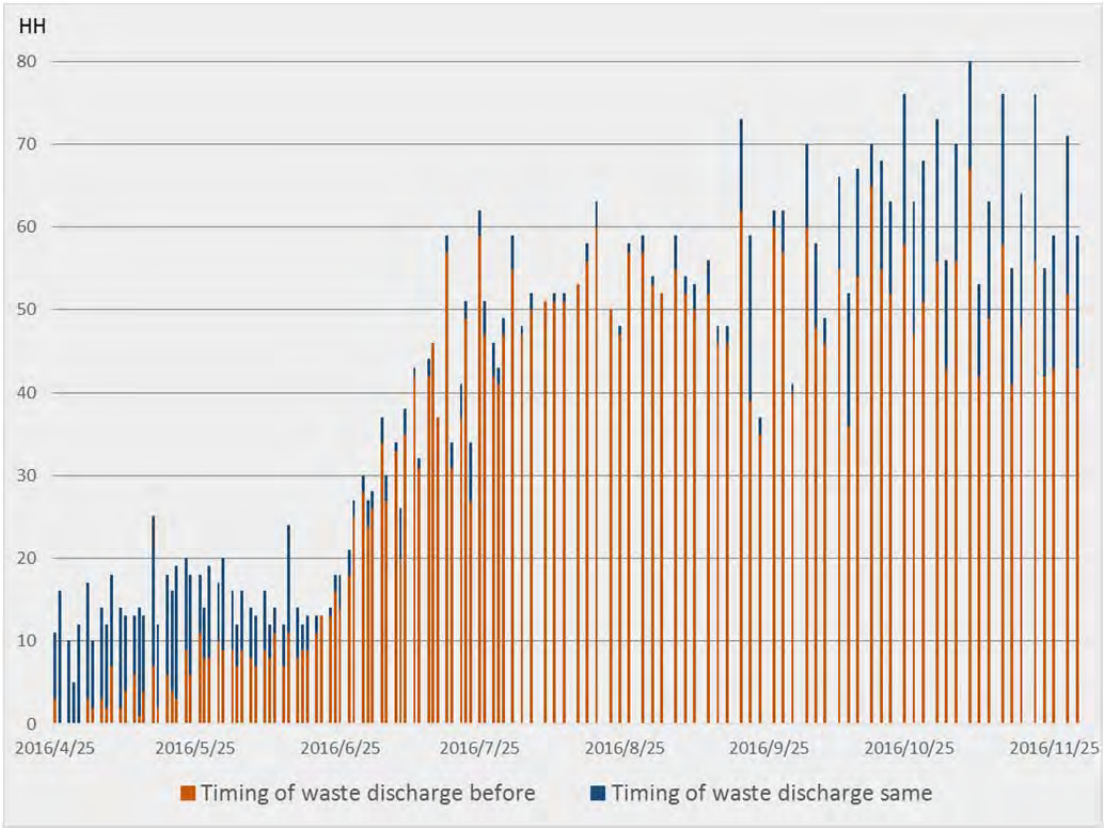


Figure 17: Change of number of households discharging to door to door collection service in part of Ferme area where PP was extended

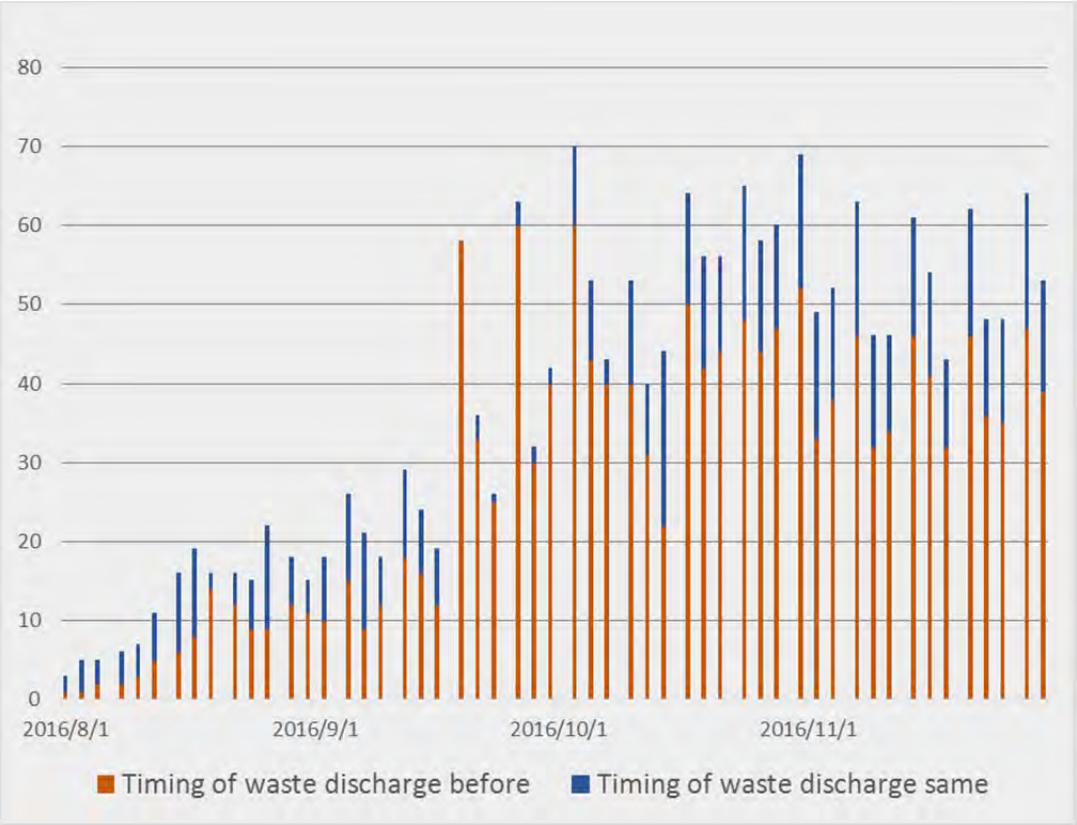


Figure 18: Change of number of households discharging to door to door collection service in Kantier area where PP was extended

D.2.2 Improvement of collection efficiency

a Improvement of collection efficiency by transition from horse-cart collection at concrete made discharge point to door to door collection with sound system

Door to door collection in the PP is a collection system in which waste discharged on the collection route is collected by a slow-moving collection truck or a collection truck stops and collects waste discharged at designated collection points. Therefore, it was assumed that collection efficiency of door to door collection did not improve much from the previous horse-and-cart collection system that provided manual collection on the concrete made discharge points.

However, it was verified that the total collection time of the door to door collection was two thirds—approximately one hour less—than that of horse-cart collection.

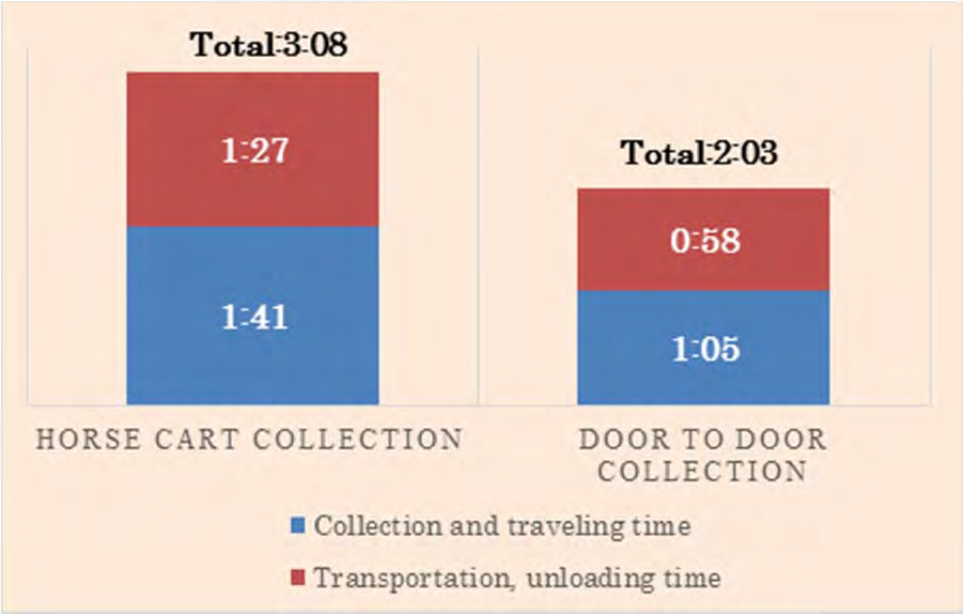


Figure 19: Collection efficiency

b Fluctuation of collection efficiency by revised collection frequency

In the first and second steps, as collection service is almost always provided at the designated time, waste discharge manner such as discharging before the collection truck comes is improved. Consequently, the required waste collection time could be shortened.

As mentioned before, from August, a collection area was expanded in three steps and collection frequency was reduced from five times to three times per week. Due to this, collection working time is longer than before and it became a little bit difficult to provide service with accurate timing. However, after October, with collection performance for collectors and recognition of residents of the fixed three times per week collection system, providing collection service with accurate timing was achieved.

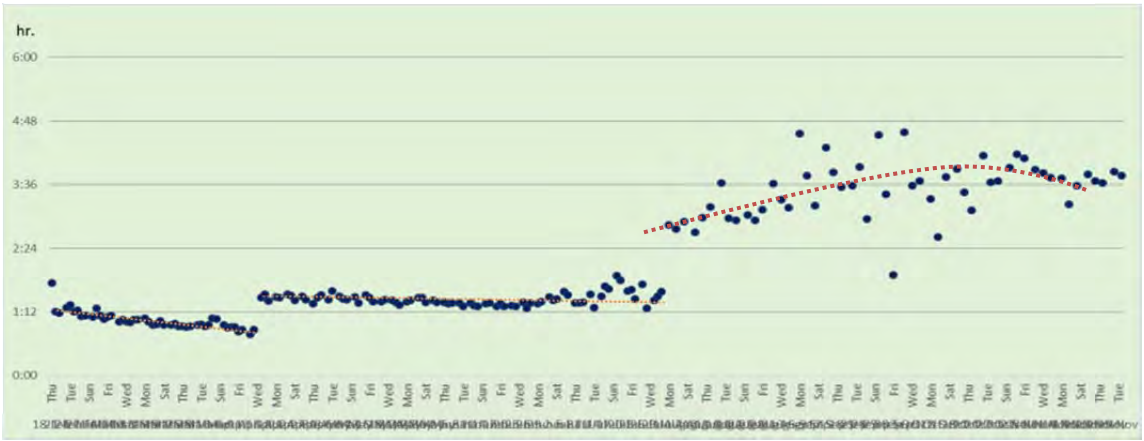


Figure 20: Required waste collection time

D.3 The situation of waste littering will be improved.

For the first step, the aims were mainly to demolish concrete made discharge points and to improve the situation of scattering waste around these points. As a result of demolishming the concrete made discharge points and changing the discharge and collection system to door to door collection with sound system, the situation of scattering waste has been improved. One

exception is that for a few days after introduction of the new system, small amounts of littering waste had been observed.

For the second step, door to door collection was extended to the entire area of Ferme. Accordingly, communal containers installed in the area were replaced. Initially, it was observed that some of the residents who were not used to the new collection system discharged waste to the previous places where the communal containers were, but the waste amount was small.

However, for the third step, door to door collection was extended to the entire Kantier area, and the collection frequency has been decreased from five times to three times (every other day) per week. After this change, illegal waste discharged at the previous places where containers were installed has increased and collection workers have continuously collected it. One reason for this is that it is assumed to be difficult to establish a custom of keeping generated waste at home until the next collection day.

The following counter measures have been devised, however the situation has not improved.

- Modification of collection routes to allow collection trucks to pass through narrow lanes as much as possible and to provide door to door collection
- Residential awareness
- Awareness raising to students in the area and distribution leaflets to their parents

As improper discharge is limited to the main road, the collection system there has reverted to the container collection system introduced for other main roads. However, door to door collection established by PP has been provided inside the area continuously.

For the public opinion survey carried out in September 2016, the following question was asked: “Do you feel your area is clean after door to door collection service has been provided?”. As a result, 80% of residents who were provided door to door collection at step 1 answered “Yes”, 60% at step 2, 95% at step 3 and totally 82.5% of residents answered “Yes”.

D.4 Cost evaluation

The cost for door to door collection service during PP was evaluated by four steps. The situation of discharge/collection of door to door collection and unit cost for collection for each step are summarized in the table below. Also, the condition of evaluation and detailed methods to calculate each cost are shown in the tables below, respectively.

At the first step (1), the cost was higher than other steps because of rental cost of collection truck. And at the first step (1) and second step (2), the cost has increased because the total number of households has been limited to approximately 100 units who previously used concrete made discharge places.

At the second and third step, unit cost has decreased. The cause of the cost decrease is an increase in the number of target households provided door to door collection service, in spite of increasing transportation costs which accompany changed disposal site[3]. The unit cost for the third step was 4,798 leke/ton and almost double compared with 2,416 leke/ton calculated with municipal financial data. It is clarified that unit cost for PP is more expensive than present collection cost in Cerrik Municipality.

[3] As previous disposal site was located near the town area of former Cerrik municipality, transportation costs were minimal. However, the new disposal site is located about 10km away from town area.

Table 27: Situation of waste discharge, collection and transportation and result of unit cost for each step

Step and period		Situation of waste discharge, collection and transportation	Unit cost (leke/ton)
First step(1)	18 February - 29 February 2016	- Collection area was initial PP area. - Disposal site was located inside of Cerrik UA. - Collection truck rented included fuel costs.	10.142
First step(2)	1 March - 13April 2016	- Collection area was initial PP area. - Disposal site was located inside of Cerrik UA. - Collection truck belonged to the Municipality.	8,492
Second step	14 April - 31 July 2016	- Collection area was entire Ferme area. - Disposal site was located in Gostimë UA. - Collection truck belonged to the Municipality.	6,457
Third step	1 August – 30 November 2016	- Collection area was entire Ferme and Kantier areas. - Disposal site was located in Gostimë UA. - Collection truck was belonged to the Municipality.	4,798

Table 28: Conditions used to estimate cost for discharge, collection and transportation

Items	Condition		Source
Fuel unit cost	148.58	leke/litter	633,056leke/4,260.64litter (Actual value from April to November 2016)
Fuel consumption	0.82	km/litter	410km/500litter (Actual value in October 2016)
Labor unit cost (Driver)	30,000	leke/mon.	
Labor unit cost (Worker)	20,000	leke/mon.	
Daily working hour	7	hr./day	
Monthly working days	22	day/mon.	
Collection and transportation distance (first steps)	11	km	Measured distance
Collection and transportation distance (second steps)	27	km	Measured distance
Collection and transportation distance (third steps)	30	km	Measured distance
Collected waste amount (first step)	0.276	ton/day	Estimation based on the waste flow
Collected waste amount (second step)	2.010	ton/day	Estimation based on the waste flow
Collected waste amount (third step)	2.531	ton/day	Estimation based on the waste flow

Table 29: Cost estimation method and result for waste discharge, collection and transportation in each step

Item	18 February - 29 February	1 March – 13 April	14 April - 31 July	1 August – 30 November
1. Cost				
a. Labor cost	2,726	22,560	87,699	116,403
- Driver	(30,000 leke/mon) x (0person) x (2.12hr/7.0hr/d) x (10d /22d)mon= 0	(30,000 leke/mon) x (1person) x (1.88hr/7.0hr/d) x (37d /22d)mon 13,536	(30,000 leke/mon) x (1person) x (2.85hr/7.0hr/d) x (79d /22d)mon 43,849	(30,000 leke/mon) x (1person) x (4.83hr/7.0hr/d) x (53d /22d)mon 49,887
- Worker	(20,000 leke/mon) x (1person) x (2.12hr/7.0hr/d) x (10d /22d)mon= 2,726	(20,000 leke/mon) x (1person) x (1.88hr/7.0hr/d) x (37d /22d)mon= 9,024	(20,000 leke/mon) x (1.5person) x (2.85hr/7.0hr/d) x (79d /22d)mon= 43,849	(20,000 leke/mon) x (2person) x (4.83hr/7.0hr/d) x (53d /22d)mon= 66,516
b. Fuel	(3,000 Leke/day) x 10days= 30,000	(11 km/day)x (637ays) / (0.82 km /litter) x (148,580Leke/litter)= 73,746	(27 km/day)x (79days) / (0.82 km /litter) x (148,580 Leke/litter)= 386,489	(30 km/day)x (53days) / (0.82 km /litter) x (148.580 Leke/litter)= 288,100
c. Maintenance	-	(Fuel cost)x(5%)=73,148x 0.05= 3,687	(Fuel cost)x(5%)=383,355 x0.05= 19,324	(Fuel cost)x(5%)=237,238 x0.05= 14,405
d. Awareness	845	3,098	20,306	23,531
e. Total cost	33,571	103,091	513,818	442,439
2. Waste collection amount (ton)	3.31	12.14	79.57	92.21
3. Cost / recyclable amount (leke/kg)	10,142	8,492	6,457	4,798

E. Suggestions for continuation and expansion of PP in Cerrik Municipality

- As a collection system in a rural area, it is verified that door to door collection system with sound system was effective and contributed to beautification of the area. As there are other areas in the administrative area where area conditions are similar to the PP area, the door to door collection system can be expanded to those areas based on experience and lessons learnt from the PP.
- However, improper discharge waste has been observed where communal containers along the main road at Ferme area were removed in the PP. This trend of improper

discharge has been observed to have increased since the collection frequency changed from five to three times per week in August 2016. Various measures were unsuccessful at remedying the improper discharge. It is thought this is due to difficulty in getting residents used to keeping waste until the collection day (when they were used to being able to discharge their waste five times a week). When considering reducing collection frequency, it is necessary to carefully introduce after door to door collection has become established.

- As there are many narrow and muddy road conditions in rural areas, middle or small size vehicles are suitable for providing collection service. Disruptions to the door to door collection service due to break-downs of the collection vehicle can reduce the confidence of residents towards the collection service. Therefore, daily and regular maintenance of vehicles is indispensable.
- Collection of taxes, including waste tax from households and offices, is indispensable to manage a healthy administration. Unit cost for door to door collection was estimated to be about double compared with present SWM unit cost. However, because waste tax is very cheap, 700 leke/year, it is necessary to adequately increase it and improve collection coverage of tax. Confidence from residents towards collection service has been improved by providing satisfactory collection service. After this, it is possible to get understanding of the residents to collect a tax amount adequate to manage SWM.
- When introducing door to door collection, it was obvious that examining the establishment of discharge and collection system was also necessary for non-municipal waste such as small amounts of bulky waste generated from households.

F. Possibility to apply to other cities and consideration

Many municipalities in Albania have wide rural areas dotted with houses and wide collection areas. For this reason, it is difficult to install containers for all households. However, the door-to-door collection system planned appropriate collection routes and collection points for the inaccessible areas. Also, using a sound system is effective to improve collection efficiency, discharge manner of residents, quality of collection services and to prevent waste littering in the area.

Nonetheless, when adopting a new collection system it is necessary to consider the following;

- As understanding and cooperation of residents for introduction of door to door collection system are indispensable, awareness campaigns before commencement and during implementation are important.
- To prevent collection service from being interrupted, periodical proper maintenance system for collection vehicles should be established.
- A reduction of collection frequency is effective to reduce SWM cost. However, it is necessary to introduce this carefully to confirm households and/or businesses have established the habit of keeping waste generated on non-collection days and stop inappropriate discharge manner.

4.2.2 PP for separate collection system for recyclables at generation sources

Expected effects, method to evaluate and evaluation indicators for separate collection of recyclables in PP are shown below.

A. Expected effects

- Promotion of residents to be highly conscious of reducing and recycling waste
- Understanding of municipal waste management by residents through actions that contribute to environmental improvement
- Reduction of the amount of waste to be collected and landfilled is realized
- Assistance is provided in improving the conditions of landfill site

B. Method to evaluate

- Monitoring survey
- Questionnaire survey

C. Evaluation indicator

Table 30: Evaluation indicator

Effects expected	Evaluation indicator
1. Promotion of residents to be highly conscious of reducing and recycling waste	• Measure the weight of recyclables collected in each category through monitoring • Survey the change of attitudes regarding waste reduction and recycling and cooperation rate for PP through public interview
2. Understanding of municipal waste management by residents through actions that contribute to environmental improvement	• Inform residents of the information on the results of the PP such as the amout of recyclables collected and its sales profit
3. Reduction of the amount of waste to be collected and landfilled is realized	• To measure the weight of recyclables collected in each category by monitoring
4. Assistance is provided in improving the conditions of landfill site	• To measure the weight of recyclables collected in each category by monitoring

D. Result of PP

Monitoring results of the PP and result of public opinion survey, which are one of the evaluation indicators, are summarized as follows before the effect is evaluated;

D.1 Number of household separated and discharged recyclables

The changing number of households which discharge recyclables to collection service during April to June is shown in Figure1-10. The number of households which discharge recyclables on Wednesday is much more than other days of the week. The recyclable's collection area on Wednesday is route C: Neighborhood 3 Ferme, where collection system was changed to door to door collection and one of the general waste collection days was changed to recyclable collection day.

In April, the number of households that participated in the PP was 146 households, which is the largest compared with other months. However, in May and June, it was decreased to 117 and 102 households respectively. The total number of households that participated in the PP was 365 households for three months and 67% of the participating households were along route C.

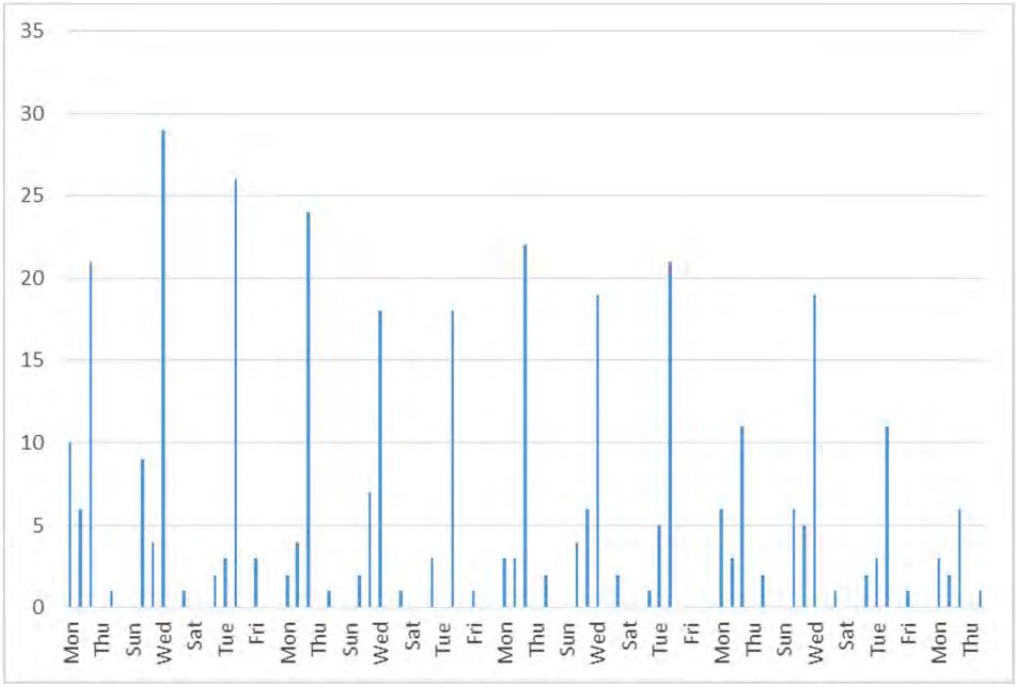


Figure 21: Changing number of household which discharge a recyclables to collection service

As mentioned previously, from August, as a second step, recyclable collection method was modified as follows:

- Service for the entire separate collection of recyclables in Neighborhood 1, 2 (route A and B) will be temporally stopped.
- New separate/collection system for recyclables which takes into consideration collection route, collection points and time will be commenced at concentrated in Block A, which consists of 250 households and 10 block apartments
- In rural areas, separated recyclables are collected as well as non-recyclables and collection day for recyclables is discontinued. Collected recyclables are segregated on the truck and stored in the garbage bins with wheels installed on the truck.

Table 31: Changing number of household which discharge a recyclables to collection service in the second step (unit：household)

Month	Number of household which discharge a recyclables	
	Block A in urban area	Ferme and Kantier in rural area
August	36	64
September	69	62
October	56	12
November	36	7
Total	197	145

D.2 Collection amount of recyclables

Collection amount of recyclables reached a maximum level in April and afterwords it had continued with small collection amounts until November 2016. Total amount is 263.5 kg and average amount is 1.09 kg/day for eight months.

Among targeted recyclables, PET bottle and hard plastic amounts totaled 242.1 kg, which is

over a 90 % share of the collected recyclables.

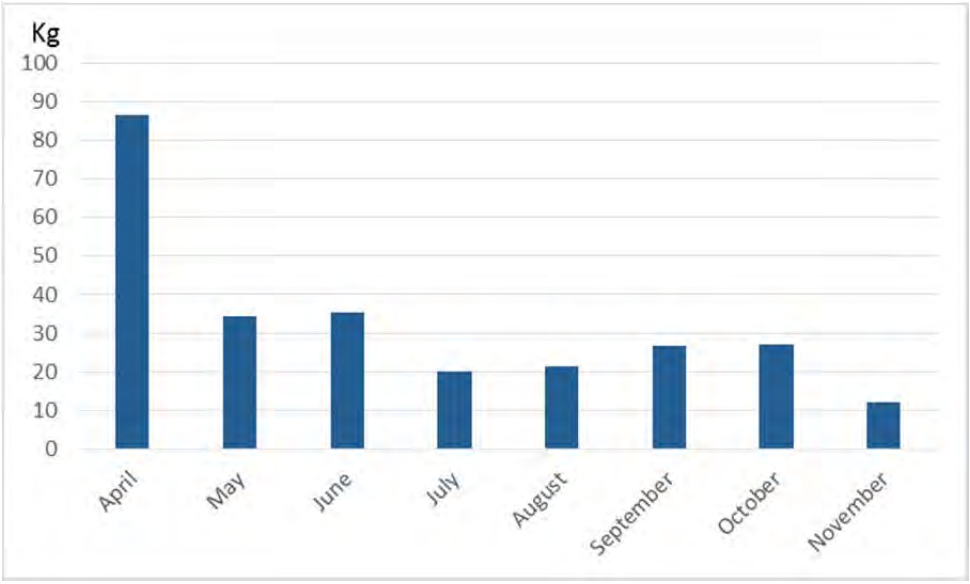


Figure 22: Monthly collection amount of recyclables

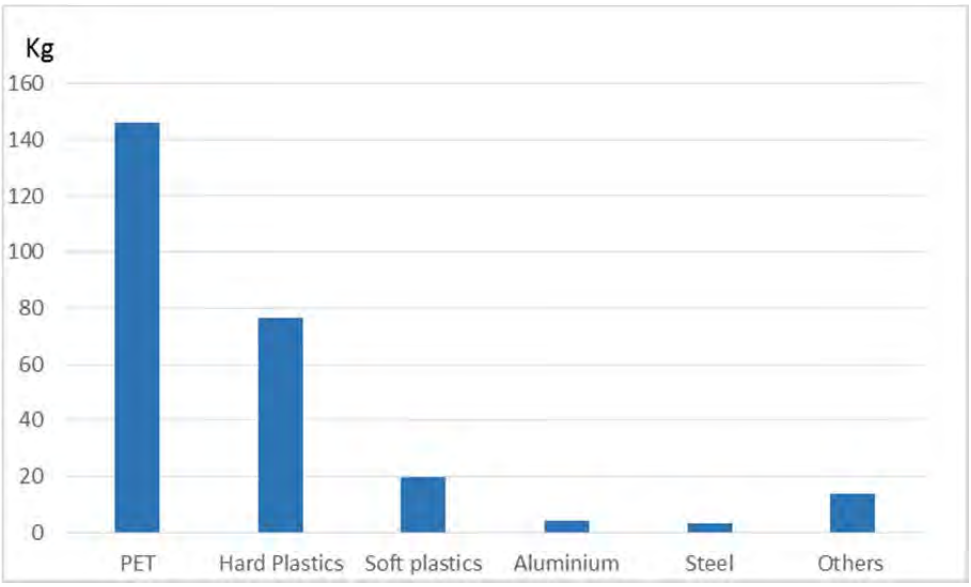


Figure 23: Collection amount by kind of recyclable

Comparison between generation waste amount of recyclables based on the WACS conducted in Cerrik Municipality and actual separate and collection amount observed in PP is shown in the table below. Total generation amount of recyclables is 660 kg/day, however actual discharge amount in PP is 1.09 kg/day. This is equivalent to only 0.17 % of generation amount.

One of the reasons for the low discharge amount mentioned above is that residential awareness of waste recycling is low. Also, there are some issues with the waste collection system such as the following:

- In town areas, the bell collection system for recyclables was introduced. With the bell collection system, collection vehicles stopped at collection points playing music and recyclables brought out by residents were collected. In parallel with this, the container collection system for general waste is provided at the same area. In town areas, where many multi-story buildings are built, the container collection system— which allows

discharging at anytime—is adequate. Thus, it is assumed that establishing separate collection of recyclables through the bell collection system will be difficult.

- At Ferme area, where door-to-door collection was initially adopted, collection day of general waste and recyclables has been separated. At the time a respectable amount of recyclables had been separated and collected from the area. After August 2016, to improve collection efficiency, collection day for general waste and recyclables was consolidated into the same day. As a result, the amount of recyclables has been reduced. Although cost reduction is important for SWM, different day collection for both general waste and recyclables is effective to establish a recycling system at generation source.

Table 32: Estimated generation recyclables amount and actual collected recyclables amount

Targeted recyclables collected in PP	Estimated generation amount (kg/day)	Actual separate/collection amount (kg/day)	Discharge Ratio (%)
PET bottle	160	0.61	0.38%
Hard plastic	70	0.32	0.46%
Other plastic	320	0.08	0.03%
Iron	0	0.02	-
Aluminum	20	0.01	0.02%
Others	90	0.06	0.07%
Total	660	1.09	0.17%

D.3 Gain from sales of recyclables

Recyclables collected and stored during PP have been sold to a buyers in Elbasan on 24, November 2016. Unit price for sale was 15.0 leke/kg, the total amount of sold recyclables was 250 kg and the total profit from sales of recyclables was 3,700 leke. The municipality decided that the profit will be used as a part of maintenance for improper discharge points in Ferme area.

D.4 Examination of cost for separate collection recyclables

Cost for separate collection of recyclables was examined according to the two periods in which discharge and collection system were different. The following are shown in the tables below: situation of discharge and collection of recyclables in each period and results of unit cost; conditions for calculation; and detailed results.

As the target area was the entire area of the former Cerrik Municipality in the first period, collection efficiency was low and unit cost became high. In the second period, as the collection area was limited, collection time and collection distance was reduced and unit cost decreased compared with the first period. Unit cost for recyclable collection was 900-1,500leke/kg. However, unit price for sale was only 15 leke/kg. Therefore, it is currently difficult to continue separate collection with costs 60 to 100 times the sale price.

Table 33: Situation of recyclable discharge, collection and transportation and result of unit cost for each step

Step and period		Situation of waste discharge, collection and transportation	Unit cost (leke/ton)
1.	4 April – 31 July 2016	• Entire area of former Cerrik municipality (Neighborhood 1, 2, 3) • Collection vehicle stops at collection points playing music and recyclables brought out by residents are collected. • Collection frequency: once a week	1,445
2.	1.August – 30 November 2016	• Limited block A located Neighborhood 1, 2 • Ferme and Kantier area in Neighborhood 3 • Collection vehicle stops at collection points playing music and recyclables brought out by residents are collected. • Collection frequency: once a week	925

Table 34: Conditions used to estimate cost for discharge, collection and transportation

Items	Condition		Source
Fuel unit cost	148.58	leke/litter	633,056leke/4,260.64litter (Actual value from April to November 2016)
Fuel consumption	0.82	km/litter	410km/500litter (Actual value in October 2016)
Labor unit cost (Driver)	30,000	leke/mon.	
Labor unit cost (Worker)	20,000	leke/mon.	
Daily working hour	7	hr./day	
Monthly working days	22	day/mon.	
Collection and transportation distance (first steps)	9.7	km	Measured distance
Collection and transportation distance (second steps)	5	km	Measured distance
Collected recyclables amount (first step)	180	kg	Measured weight
Collected recyclables amount (second step)	80	kg	Measured weight

Table 35: Cost estimation method and result for recyclables discharge, collection and transportation in the first step

Item	Calculation	Cost
1. Cost	-	
a. Labor cost		**35,341**
- Driver	(30,000 leke/mon) x (1person) x (1.73hr/7.0hr/d) x (63d /22d)mon	**21,205**
- Worker	(20,000 leke/mon) x (1person) x (1.73hr/7.0hr/d) x (63d /22d)mon	**14,137**
b. Fuel	(9.7 km/day)x (63days) / (0.82 km /litter) x (148.580Leke/litter)	**110,728**
c. Maintenance	(Fuel cost)x(5%)=110,728x0.05	**5,536**
d. Awareness		**108,518**
e. Total cost	-	**260,123**

Item	Calculation	Cost
2. Recyclable amount collected (kg)	-	**180**
3. Cost / recyclable amount (leke/kg)	-	**1,445**

Table 36: Cost estimation method and result for recyclables discharge, collection and transportation in second step

Item	Calculation	Cost
1. Cost	-	
a. Labor cost	-	**8,669**
- Driver	(30,000 leke/mon) x (1person) x (1.48hr/7.0hr/d) x (18d /22d)mon	**5,201**
- Worker	(20,000 leke/mon) x (1person) x (1.48hr/7.0hr/d) x (18d /22d)mon	**3,467**
b. Fuel	(5 km/day)x (25days) / (0.82 km /litter) x (148.580Leke/litter)	**16,308**
c. Maintenance	(Fuel cost)x(5%)=16,308x0.05	**815**
d. Awareness		**48,230**
e. Total cost	-	**74,022**
2. Recyclable amount collected (kg)	-	**80**
3. Cost / recyclable amount (leke/kg)	-	**925**

E. Suggestions for continuation and expansion of PP in Cerrik Municipality

- The PP revealed that the operation of separate collection of recyclables requires substantial costs. It is difficult to continue carrying out seperate collection under the current municipal financial situation.
- It did not result in an amount of collected recyclables significant enough to reduce the landfill amount for mitigating environmental impact or to recover the transportation costs. The reason for this is the citizens in general have not been cooperative in separate discharge.
- However, the PP in Ferme area figured out that it is effective to introduce the door-to-door collection system for general waste prior to starting the separate collection of recyclables. It also suggests that the collection of the general waste and recyclables may be better if conducted on separate days, although it involves more costs. Collecting the general waste and the recyclables on the same day seems to discourage the citizens from segregating the recyclables at home and requires collection workers to do extra work of separation during the collection process.
- In urban areas, especially in the areas with apartment buildings, the bell collection of the recyclables does not seem to be effective while other general waste can be discharged at any time in communal containers placed in their neighborhood. Moreover, there were some opinions that it is not reasonable to expect the people living in high-rise apartment buildings to come out of their homes to discharge recyclables upon hearing the music of the collection vehicle.
- When the separate collection of the recyclables is conducted having solid cooperation from the residents and a sufficient amount of the recyclables can be collected, the

separate collection contributes to the reduction of environmental load caused at landfill, and will lead to lower costs of transporting collected waste to a regional landfill in the future.

F. Possibility to apply to other cities and consideration

- It takes sufficient cost to implement separate collection of recyclables. It is premature for municipalities in Albania to introduce it based on the current financial situation.
- However, it is recognized that introduction of door-to-door collection for general waste and changing one of those collection days to collection day for recyclables in rural areas can enable residents to easily understand separate collection of recyclables, and a certain amount of recyclables will be collected. Consequently, when separate collection of recyclables is introduced, step by step introduction is recommended.
- On the other hand, in urban areas, especially in areas where many apartments are built, it is difficult to collect recyclables using bell collection while general waste can be discharged at any time to communal containers placed in the area.
- As with suggestions for Cerrik Municipality, when the separate collection of the recyclables is conducted with solid cooperation from the residents and sufficient recyclable can be collected, the separate collection contributes to the reduction of environmental load caused at landfill, and will lead to lower costs of transporting collected waste to a regional landfill in the future.
- It was found in the PP for Cerrik Municipality that improvement of waste discharge/collection system is a priority before introduction of separate/collection of recyclables. This same recommendation, to improve solid waste management before introduction of separate/collection, is made, for other municipalities where present solid waste management has not been managed adequately.

4.3 Attachment

4.3.1 Photo on implementation situation

A. PP on improvement of discharge/collection system in rural area

	Collection system with concrete-made discharge point and horse cart provided in rural area in former Cerrik area (before February 2016)

	Demolishing concrete-made discharge points (8 points) at the commencement of door-to-door collection. (February 2016)
	Before commencement of PP, awareness raising and explanation about PP was implemented by distributing leaflet. (March 2016)
	Collection work of waste with collection truck installed sound system

	Discharge place and time (2): direct discharge into collection vehicle by resident
	Discharge place and time (1): in front of the houses, facing the collection route and in principle, before the collection vehicle comes
	Improper discharge of waste has not been observed at demolished concrete-made discharge points since implementation of the door-to-door system. (October 2016)

	From August 2016, the collection area has been expanded and at the same time collection frequency has been changed to every other day. As a result, improper discharging has increased at the place where containers were previously installed. (November 2016)

B. PP on separate/collection system for recyclables at generation sources

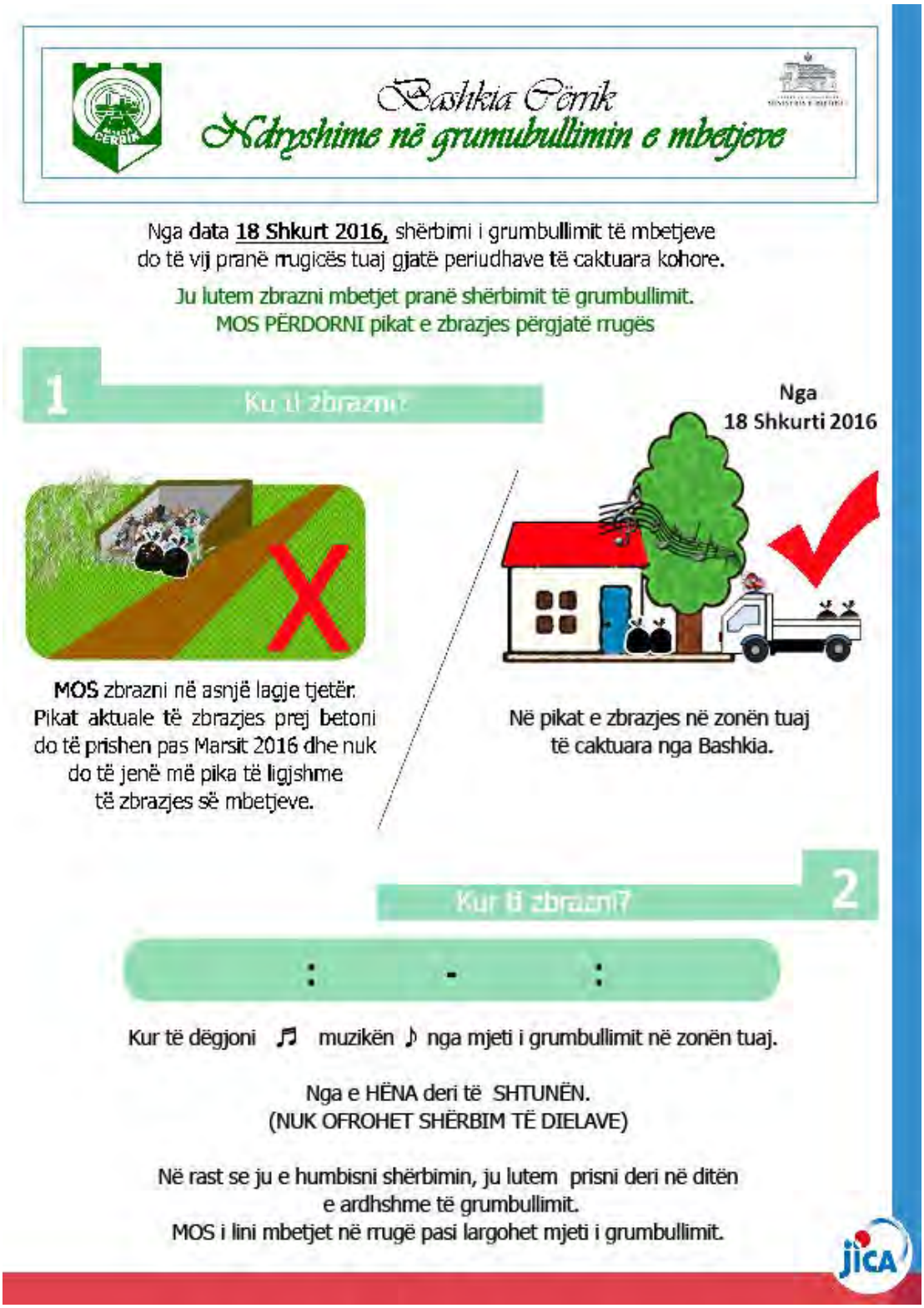
	Condition of recyclables collection. (June 2016)
	In case general waste was discharged on recyclables collection day, collection of the waste was refused and a notice was put on it. (June 2016)

	The simultaneous collection of general waste and recyclables was commenced with loaded wheel containers for recyclables on the collection truck. (August 2016)
	Recyclable collection area at the urban area has been reconsidered for Block A .(August 2016)
	Measuring collected recyclables at storage warehouse (2 April 2016)

	Recyclable stored after commencement of PP sold to a recycler at Elbasan (November 2016)

4.3.2 Leaflet for awareness

A. Leaflet for improvement of discharge/collection system




3
Si ti zbrazni?
Vendosini të gjitha mbetjet
në çdo lloj kontenieri
(qeska plastike / kosha
/ kuti / etj...)
MOS i zbrazni mbetjet në tokë
Nga Prilli 2016, grumbullimi i ndarë i mbetjeve të ricikluesshme do të fillojë në të gjithë zonën e ish Bashkisë Cërrik. Orari i grumbullimit do të njoftohet dhe njëherë. Ju lutem shikoni për informacione të mëtejshme që do ofrohen nga Bashkia.
Nëse mjeti i grumbullimit nuk vjen në orar, ose në qoftë se ju hasni në ndonjë problem në grumbullimin e mbetjeve,
Ju lutem informoni Drejtorinë e Shërbimeve Publike, Bashkia Cërrik :
Drejtori : Z.Qerim Baku
Numri i telefonit: 068 207 9646
JICA

B. Leaflet for separate/collection system for recyclables at generation sources

Bashkia Cërrik

Ndryshime në grumbullimin e mbetjeve

Grumbullimi i ndarë i mbetjeve të ricikluesshme do të fillojë në gjithë zonën e ish bashkisë Cërrik nga Prilli i 2016 për të realizuar pakësimin e sasisë së mbetjeve të depozituara dhe ruajtjen e mjedisit në vendin e depozitimit.Ju lutem ndani mbetjet e ricikluesshme nga ato jo-të ricikluesshme dhe zbrazini ato te shërbimi i grumbullimit.

1 Kush janë mbetjet e ricikluesshme?

- Shishet PET
- Plastikë e forte dhe e butë
- Metalike dhe alumini

Si dhe ku ti zbrazim mbetjete ricikluesshme? 2

Makina e grumbullimit vjen duke luajtur muzikë dhe ndalon pranë zonës tuaj. Kur dëgjoni muzikën ju lutemi nxirrni mbetjet e ricikluesshme dhe zbrazini drejtpërdrejtë te shërbimi i grumbullimit. Mund të përdoret çdo ambalazh zbrazje si, qese plastike, thes dhe kuti kartoni.

JICA

3 Kur të zbrazni mbetjet e riciklueshme?

- Lagja 1, 2: E hënë dhe e Martë në mëngjes
- Lagja 3 Fermë: E mërkurë në mëngjes

Shpeshtësia e grumbullimit në zonën ku ofrohet grumbullimi derë më derë do të ndryshojë si më poshtë;

	Hën	Mar	Mër	Enj	Pre	Sht
Jo-të riciklueshme	✓	✓		✓	✓	✓
Të riciklueshme			✓			

- Lagja 3 Kantier dhe Shelg: E premte në mëngjes

Dita juaj e javës për grumbullim:
- E hënë
- E martë
- E mërkurë
- E premte

4 Gjërat që duhet të keni parasysh para ?

- Shpëlaj me ujë.

- Kanaçet e ushqimit duhen zbrazur nga mbetjet dhe të lahen.

- Ju lutem, mos zbrazni mbetjet e riciklueshme pis dhe te shërbimi i zakonshëm I grumbullimit të mbetjeve
- Nëse harroni të zbrazni mbetjet e riciklueshme në ditën e përcaktuar, ju lutem mbajeni atë deri në ditën tjetër të grumbullimit.

Nësë mjeti i grumbullimit nuk vjen në orar, ose në qoftë se ju hasni në ndonjë problem në grumbullimin e mbetjeve,
Ju lutem informoni **Drejtorinë e Shërbimeve Publike, Bashkia Cërrik :**
Numri i telefonit: 068 207 9646

5 Activities for Output 5 (Tirana Municipality)

5.1 Outline of PP in Tirana Municipality

5.1.1 Designing Pilot Project

Before July 2015, the possibilities of implementing "Pilot Project of Valuable Waste Separation" and "Pilot Project for Expansion of Waste Collection Service" were examined based on the result of a series of baseline surveys. As a result, it has been decided to focus on "Pilot Project of Valuable Waste Separation" and was agreed that schools would be the entry point for unfolding the activities.

A. Pilot Project of valuable waste separation

Based on the recycling survey and the present situation survey for waste collection services, it is observed that a flow of valuable wastes has been established already, where the valuable wastes discharged in containers are generally collected by waste pickers (WP) and sold to dealers, and it is considered too complicated to change this existing system precipitately. Therefore, it has been decided to introduce waste separation at discharge sources in order to promote recycling without changing the current system much.

The following facts have been found through the surveys on current status:

- Currently, those WP and dealers mainly deal with PET bottles, plastic packages (soft and hard), aluminum cans, and other metals;
- there are few waste pickers dealing with paper and cardboard;
- Waste pickers usually work individually and the amount of the valuables collected by each WP is limited. Therefore, they tend to deal with only wastes that are traded at expensive prices.

Considering this situation, planning of the 3R Pilot Project for Tirana Municipality focuses on such wastes that WPs and small-scale recyclers deal with. JET has presented the three options listed below to the municipality in order to decide on the policy about treatment of separated valuable wastes. The best option will be selected for implementation after discussion with Tirana Municipality.

Table 37: Comparison of ways of handling valuable wastes

	Option A	Option B	Option C
	To put separate recyclables besides the containers for easy access by waste pickers	To sell recyclables to recycling dealers such as collectors who gather recyclables from waste pickers	To let authorized collectors collect separated recyclables without any payment (to the collector)

	Option A	Option B	Option C
Advantages	· It does not interfere with present recyclable stream that waste pickers (Roma people) make their living expenses from · It is a simple way that doesn't significantly change the present system which just requires the "separation". Discharge to the container as usual, but then separates it.	· It apparently encourages the people to separate waste so that dischargers can gain certain returns from their separation work · It is most likely to be a common and natural way in terms of the present situation and people's mentality and so it can be easier to persuade the people	· It would get closer to the concept of "Polluter must pay for the disposing" in order to tighten the social responsibility of waste discharger · It would be more applicable to the advanced urban style such as required by EU standards
Disadvantages	· It may cause further problems even if this option temporarily has no affect on their income opportunity. For example, internal friction may occur if the recyclables have been organized into the recycling stream · The lack of motivation of people who must separate the waste	· It requires depositing a certain amount of recyclables at any place for a certain period so as to make collection efficient by collectors. Space, equipment and tools and management are needed · The possibility to threaten the lives of socially vulnerable people (waste pickers)	· Although it might not be as hard as Option B, it still requires a certain amount of recyclables for collection efficiency · The possibility to threaten the lives of socially vulnerable people (waste pickers) · The lack of motivation of people who must separate the waste

B. Pilot Project for expansion of waste collection service

According to the "present situation survey for waste collection", most of the Tirana Municipality area is provided with the waste collection services, but there are a few unserved areas including Lapraka area and others. Seeking a measure to provide waste collection services to such areas will prepare a foundation for waste reduction and promotion of recycling in the municipality as a whole. Therefore, a pilot project, in which expansion of waste collection service will be aimed as a step that precedes the separate collection of recyclable wastes in the same locations as the above-mentioned pilot project of valuable waste separation, was also examined for possible implementation.

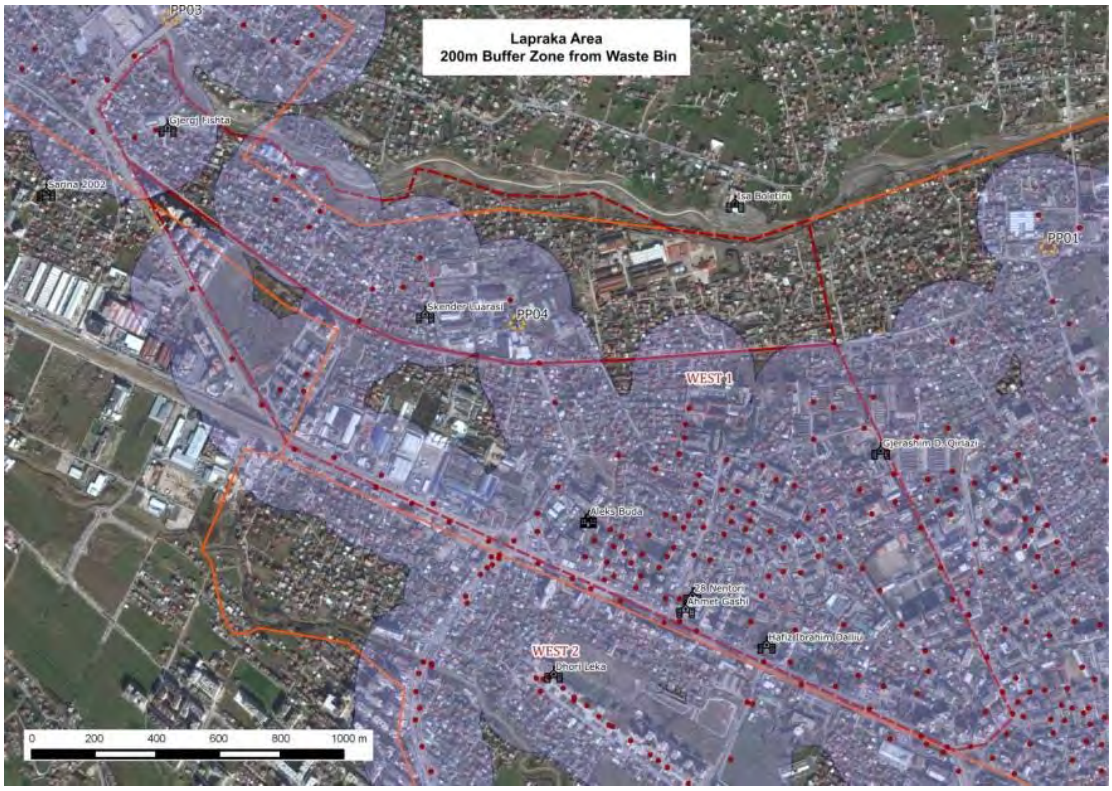


Figure 24: Coverage of Waste Collection service in Lapraka area (200m-radius from each container)

C. Pilot Project for separate collection of recyclables in schools

It became clear that the solid waste management of Tirana would become integrated to include the surrounding administrative units after the territorial reform scheduled in July 2015, and the municipalities had been dealing with the contracts for municipal waste collection by extending the on-going ones, considering the possible revisions of the contract contents to be made after the reform. Therefore, the above-mentioned “pilot project for expansion of waste collection service” had to be given up, and it was decided to focus on “valuable waste separation.”

As a method of its implementation, and considering the request from Tirana Municipality side to carry out environmental activity in schools, it was agreed to implement separation activity within schools targeting students in the first phase of the pilot project, and to evolve it to the community starting with their parents in the second phase, as indicated in the following figure.

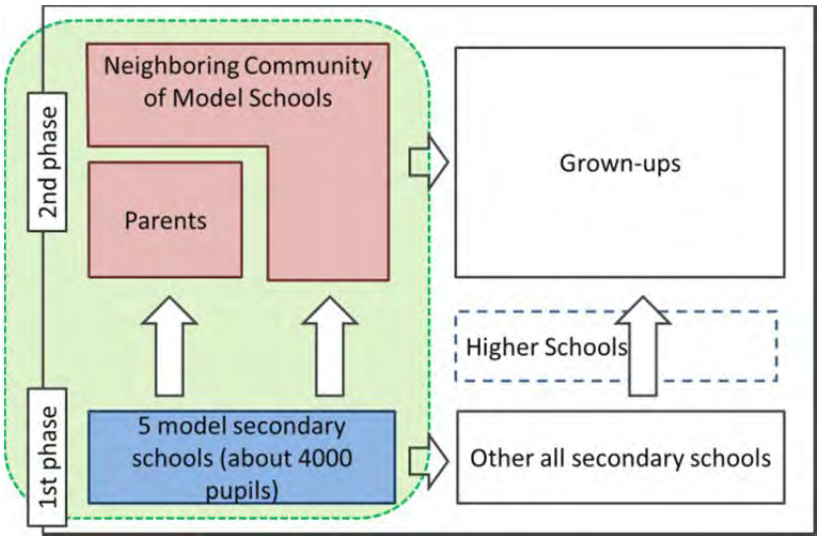


Figure 25: Concept of steps for unfolding the school-based separate collection of recyclables in Tirana Municipality

5.1.2 Impacts of Territorial Reform and the local election on implementation of PP

Tirana Municipality, being the national capital and having the largest area and administrative system, was influenced by some political movement and took the longest time to finalize the administrative set up after the territorial reform and the local election in July 2015 among the three pilot municipalities of the Project. The Director General of Public Service in Tirana Municipality was appointed by September 2015, but the official discussion with him on the pilot projects had to wait until the official appointment of the new Director of municipal solid waste management in January 2016. The field staffs for the PP had not been assigned until then, either, and the Project could not make contact with schools to be targeted under the PP until then. It was only in January 2016 that the field work could physically start.

5.1.3 Overview of PP in Tirana Municipality

The table below shows the summary of the planned PP agreed upon with the Tirana municipality side in January 2016.

PP in Tirana Municipality	
Target area	Lapraka area in Tirana AU
Target	5 public schools＋2 private schools, total 7 schools, a total of about 2000 students (primary to high school students)
Basic principles	1. By targeting Lapraka area, where both a typical urban living environment and a newly developed area with migrants from nearby communes exist, the PP aims to present a proposal of one 3R solution applicable in other areas of Tirana. 2. Utilizing schools as the social exchange venue of the community people, communicating and ingraining the concept of 3R into not only schools but also into the surrounding communities. 3. In recycling activities in schools, in order to make it a successful experience, targeted recyclables will be the ones that have established a recycling market among what are generated only in schools. 4. Upon expanding the recycling activity to the surrounding communities, not merely to scale up the same activities, but to respond to the needs of a wider range of residents, methods will be discussed and decided

	with the communities and the municipality.
Summary of PP	Phase 1: Discharge and collection of the recyclables in schools. Phase 2: Expansion of separate discharge/collection of the recyclables to the communities surrounding the schools.

The contents of each phase are described in the following sections.

A. Phase 1: Discharge and collection of the recyclables in schools

A.1 Outline of Phase 1

Phase 1 (January 2016 ~ December 2016)	
Objectives	Establishing appropriate manner of separately discharging the recyclables. Understanding the clear status of recyclables generated in the target area and establishing communication with its residents.
Target area	7 schools located in Lapraka area
Targeted population	About 2000 pupils and students, their families, teachers.
Targeted recyclables	PET bottles, soft plastics, aluminum cans generated within the target schools
Issues	・All wastes including wastes from schools are discharged in containers in the entire area. Thus the recyclables are all mixed and discharged with the other municipal wastes. ・Recyclers (WP[4]) collect recyclables by picking up their desired recyclables, which results in waste scattering around the containers. ・Not all recyclables can be separated in the above-mentioned way and the wastes transported to the disposal site include a certain amount of the recyclables. ・Recycling activities carried out so far in schools could not establish good collaboration with collectors (recyclers) and ended unsuccessfully.
Goals	1. Out of the recyclables generated in schools, PET bottles, soft plastics and aluminum cans will be separately discharged and collected in collaboration with the recyclers that are active in the area. 2. Pupils and students of the schools will experience and get a feel for the amount of the recyclables discharged by themselves and the effect of separate discharge. 3. The pupils and students' experience in separate discharge will be shared with their family members and neighbors.
Procedures:	1. Discussing and deciding the method and rules of separate discharge at each school 2. Discussing and deciding the collection schedule and rules with the recyclers. 3. Preparating the school containers 4. Informing the family members and neighbors of activities by the pupils and students at schools. 5. Starting separate discharge / collection with monitoring by pupils and students (amount, manners and finance). Monitoring of each school will be conducted by the municipality and the Project. 6. Reporting of the progress by the pupils and students to their parents and neighbors. 7. Considering the possibility of scaling up the activities to other schools in other areas.

[44] Waste Pickers

Roles and responsibilities	【Tirana Municipality】 ● Communication, coordination and carrying out preparatory discussions with each target school and Education Directorate ● Updating the information about the municipality-level situation regarding separate collection (formalization of recyclers, contract with service providers, and other related matters) ● Continuation of provision of collection of the municipal waste as it is. ● Monitoring each school's activities. ● Provision of related materials for awareness raising. 【Target schools】 ● Provision of a space for placing container(s) for the recyclables. ● Contacting recyclers for collection when it is needed. ● Securing time for pupils and students to participate in related activities (briefing on rules, involvement in development of awareness raising materials, participation in progress reporting, etc.) ● Support from the teachers for monitoring activities to be conducted by pupils and students. ● Management of income from sales of the recyclables ● Communication and provision of venues for convening parents meeting 【JET】 ● Cost for containers of the recyclables placed in each school ● Cost for developing materials for awareness raising ● Cost for reporting meeting at each school ● Assisting preparatory meetings with each school ● Discussions with recyclers for collaboration ● Monitoring of each school ● Assisting discussions with schools and the residents of the area
Evaluation	1. Continuation of separate discharge/collection of the recyclables in schools 2. Residents of the surrounding community are aware of the recycling activity carried out in schools.

A.2 Progress of activities

A.2.1 Designing method of implementation

a Recyclable waste amount survey and rules for selling recyclables to dealers

Out of the five schools, each class from the second, forth, and eighth-grade classes in 28 Nentori school, as a representative primary school (1st to 9th graders), and each class from 10th, 11th and 12th-grade classes of Aleks Buda school, as a representative high school, were selected as sample classes and the recyclable amount survey was conducted. They collected recyclable waste for one week in each class to investigate the average amount of recyclable waste discharged at a school in Lapraka area.

The method, progress and results of the survey are as follows.

School WACS (Waste Amount and Composition Survey) @ 28 Nentor School

- Objectives of the Survey
  To figure out the efficient scheme (Frequency of collection, storage method, container size, etc...) of separation / collection of the recyclable to be implemented in schools.
- Outputs of the Survey
  The amount of the recyclables (PET bottle, soft plastic, aluminum cans) discharged by a school will be understood.
  The students will become aware of the amount of the recyclables that they discharge daily.
- Period of Survey
  - Tues, 16 Feb till Mon, 22 Feb
- Number of classes to be survey
  - 1 class from 1st ~ 2nd grade classes (Number of students of the selected class: _____)
  - 1 class from 3rd ~ 6th grade classes (Number of students of the selected class: _____)
  - 1 class from 7th ~ 9th grade classes (Number of students of the selected class: _____)
  - Total 3 classes per school

- How to conduct
  1. Each target class will be provided with a few plastic bags
  2. Students in the target class will discard the target waste (recyclables) into the provided bags for one week (5 weekdays).
  3. Students will be instructed on what to be separated and how to discharge by the project team* on the first day (16 Feb).
  4. After collecting the recyclables for 1 week, "WACS" will be conducted by the Project Team, or by the students of the target class, on the last day (22 Feb).
  5. The collected recyclables will be sold (or given for free for this survey) to the recyclers.
     → School needs to consider & decide how to manage the sales money.
  6. The result of the survey will be shared with all students when staring the recycling activity in March.
- What to be separated:
  - PET bottles
  - Soft plastic*
  - Aluminum cans (drink cans)

  } Together in to one bag

(Once a bag becomes full, close it tightly and use the next bag.

- How to be discharged
  - Any contents of the bottles, bags, or bins should be emptied completely before discharging.(No need to wash.)
  - Other wastes are discharged into the usual waste bins as the students are doing so currently.

School WACS (Waste Amount and Composition Survey)
@ 28 Nentor School

- Storage & Collection of the separated recyclables
  - The project team will come and collect the bags on the last day (Mon, 22 Feb.)
  - Please keep the closed bags in each class room.
    - In case of keeping them in the area other than the target classrooms,
      a. Please keep them indoor closed area so that the collected recyclables will be kept untouched until the last day of the survey.
      b. Please make sure to distinguish the bags from each class.
- Measurement of Collected Recyclables
  - If the school can provide us with a space? (Activity hall, hallway, or outside space with roof, about 10 x 15 m space)
    - If yes, the project will bring in plastic sheet, on which the collected recyclables will be separated in to each kind.
  - For each target class, the collected recyclables will be sorted by their materials (i.e. PET, soft plastic, aluminum).
  - Each category of the sorted recyclables will be weighted and measured for their weight and volume.
  - The Project team will calculate the average amount of the recyclables discharged per student.



School WACS (Waste Amount and Composition Survey)
@ 28 Nentor School

- Presentation of the Results
  - The result will be shared with all classes as well as the other schools participating in the pilot project when introducing the recycling activity to the student.
  - Option 1: By students → students assembly? Upon the starting of the activity in March.
  - Option 2: By Poster to each class
- Materials to be prepared by the Project
  - Plastic waste bags (in one color, 5 bags per class = 15 bags per school)
  - Label stickers per each bag = 5 stickers per class = 15 stickers per school (for placing class name on each bag)
  - Plastic sheet (in case of conducting sorting in the school) 10 x 10 meter
  - 3 plastic basins
  - Weighing scales

Figure 26: Explanation of method of Recyclable Waste Amount Survey

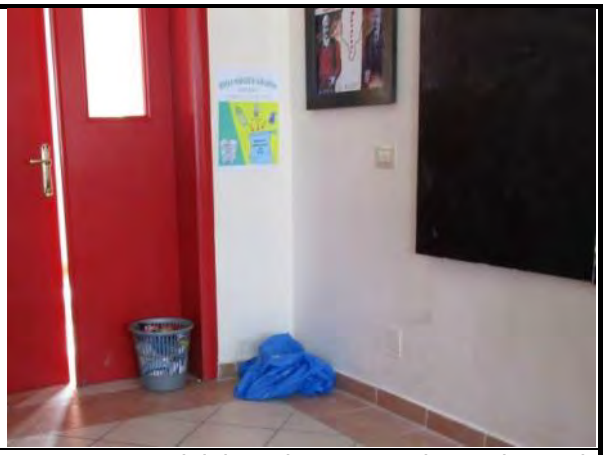
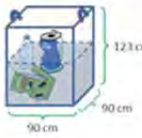
	
Explanation of the survey was provided to the target classes (6 in total) by Tirana Municipality staff (right) and JET (middle) prior to the survey.	A poster explaining the separation rule and plastic bag were placed in a corner of each target classroom. Target recyclables were collected in one bag for a day.
	
A few representative students from each target class participated in measuring volume and weight of the collected recyclables. 2nd graders are shown here at work.	4th graders weighing their discharged recyclables while Tirana Municipality staff watches their work.
	
Measurement at the high school (1)	Measurement at the high school (2)

Figure 27: Progress of recyclable waste amount survey

School 28 Nentori
Class 2-B, 4-D, 8-D
number of students 1094
collection period 17 -23 February (5 days
survey date 25-Feb

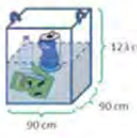
	(1) 2-B per student per day		(2) 4-D per student per day		(3) 8-D per student per day		(4) =((1)+(2)+(3))/3 Average per student per day		(4) x 1094 students Overall in School per school per day				
	volume (ml)	weight (g)	volume (ml)	weight (g)	volume (ml)	weight (g)	volume (ml)	weight (g)	volume		weight		% in weight
Total	103	4.53	183	9.37	236	11.73	174	8.54	190,876	ml	9351.70	g	100.0%
									191	l	9.35	kg	
Aluminam cans	2	0	11.43	0.63	133	5	48.88	2.02	53,474	ml	2212.44	g	23.7%
									53	l	2.21	kg	
PET bottles	100	3	171.43	4.26	91	2	120.78	3.12	132,132	ml	3418.25	g	36.6%
									132	l	3.42	kg	
Juice bottles	1	1	0.57	4.48	12	4	4.65	3.40	5084	ml	3715.39	g	39.7%
									5	l	3.72	kg	



1 gunny sack = 1000 L
To fill 1 sack fully 5 days x 191 L/day

School Aleks Buda
Class X-3, XI-3, XII-3
number of students 583
collection period 18 - 24 February (5 day
survey date 25-Feb

	(1) X-3 per student per day		(2) XI-3 per student per day		(3) XII-3 per student per day		(4) =((1)+(2)+(3))/3 Average per student per day		(4) x 583 students Overall in School per school per day				
	volume (ml)	weight (g)	volume (ml)	weight (g)	volume (ml)	weight (g)	volume (ml)	weight (g)	volume		weight		% by weigh
Total	115	3.13	36	1.54	74	2.69	75	2.45	43,804	ml	1429.62	g	100.0%
									44	l	1.43	kg	
Aluminam cans	40	1.28	31	1.15	63	2.03	45	1.49	25,968	ml	866.22	g	60.6%
									26	l	0.87	kg	
PET bottles	75	1.85	5	0.38	11	0.66	31	0.96	17,793	ml	561.97	g	39.3%
									18	l	0.56	kg	
Juice bottles	0	0.00	0	0.00	0	0.00	0	0.00	0	ml	0.00	g	0.0%
									0	l	0.00	kg	



1 gunny sack = 1000 L
To fill 1 sack fully 23 days x 44 L/day

Figure 28: Results of recyclable waste amount survey at 2 schools

b The method of discharge and selling at school

As a result of the recyclable waste amount survey in two schools, primary schools discharged 174 ml (8.54 g)/day per student and 191 ℓ per day per school, which is enough to fill a gunny sack with 1000 ℓ capacity in about a week. The number of days required to fill a gunny sack was calculated according to the student numbers regarding each of the three other schools, and every school could expect to fill a gunny sack in a week or two. It was calculated that the high school discharged 44 ℓ/day per school and would take four full weeks to fill the sack, but both students and teachers said they would consume many more drinks and generate more waste once it gets warmer (the survey was conducted in February). Thus, the same 1000 ℓ-sack as used in a primary school was prepared for the high school.

Without ensuring a certain level of frequency for the recyclables to be collected from a school, the recyclables that students would have collected would be left piled up in the school and the students may get an impression that "efforts for separate collection did not pay off". Therefore, the Project concluded that more than one sack with a capacity of 1000 ℓ may not be necessary for any school and decided to install a single sack without separately storing the recyclables by their types so that the recyclables are frequently collected by a recycler.

c Discharge method

- Recycling bins are placed on each floor, or in each classroom if necessary, and every student discharges the target recyclables to the designated bins at each time of discharging.
- The accumulated recyclables in recycling bins are shifted to a collection sack by students or school cleaning staff every day. When doing so, non-recyclable wastes are removed.
- Once the collection sack is about to be filled, the monitoring staff (or even the school) contacts the cooperating collector for collection (selling). (When contacting the collector, it is better to coordinate with other schools so that the collection can be done in one trip.)
- It is better to store the collection sack in a place where rain can be avoided and yet can be accessed easily.

d Collection method

- The collection sack filled with the recyclables is handed over to the collector, and the school receives an empty sack for replacement from the collector in return. The monitoring staff accompanies the collector to record the scaling, receive the sales money of each school and hand it over to the schools.
- The record of selling is kept not only in the form of the receipts from the collector (which often includes only the total amount), but also in a recording format in which the weight of each category of recyclables can be recorded respectively.
- It is recommended that a few student representatives accompany the first selling process. Through this process, the students will learn more directly and vividly what kinds of recyclable wastes can be traded, and they will share such information with other students. This will raise the level of awareness among the students.
- Once a cycle of collection is established, the frequency of the collections from schools can be scheduled more regularly such as once a month for every school, for easier coordination between the schools and with the collector(s). Once the collection can be regulated and communication between the schools and the collector(s) are established, the municipal monitoring staff can be withdrawn from the field, and the schools will continue on their own. (Although it will be continuously necessary to check if the system and rules established are working or not.)

A.2.2 Explanation of method and request for cooperation o schools

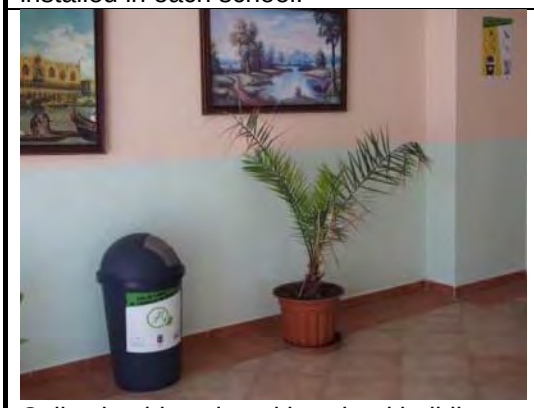
JET, together with Tirana Municipality, explained the PP and the method of separate discharge to the teachers in the target five schools in March 2016, by providing awareness materials (illustrated story cards) which had been prepared in advance (one set for each class). Before actually starting the activity in each school, the teachers were requested to cooperate in explaining the activity to their students through utilization of the prepared materials.

Upon commencement of the PP, collection bins, posters for awareness, collection sacks, and

frames for installing collection sacks were prepared. On 29 March 2016, Aleks Buda High School, one of the five pilot schools, started separate collection of recyclables. The other four schools started their activity upon the installment of the equipment in April.

The collection sack supported by a frame installed in each school.

Poster for awareness



Collection bins placed in school buildings

WHY 3R?

What are 3 "R"?

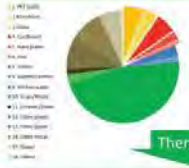
- Reduce: to generate and discharge less waste
- Reuse: to use more than once before discharging
- Recycle: to use material again in different form

What is happening in Tirana?

- Every day about 500 ton of waste is carried in to Sharra Landfill. X 50
- Every day, each person is discharging about 360g of waste.
- Sharra Landfill will NOT expand. It has its limit!!

- Among the waste discharge every day from our houses, about 85% goes to the landfill, and only 15% gets collected for recycling.

What can we do now?



Separate what can be recycled and **discharge separately** to recyclers

Then we will

have **less waste** going to the Landfill

have **more resources** for future usage

- **What NOT to be separated**

1. Aluminum sheet
2. Paper
3. Plastic
4. Glass bottles other than Suko and Bitter
5. Food waste

These are "recyclables" = They can be used as materials in some places. But! unfortunately, there is no factories nearby in this neighborhood that use these materials or buy them easily, and no one collect them.

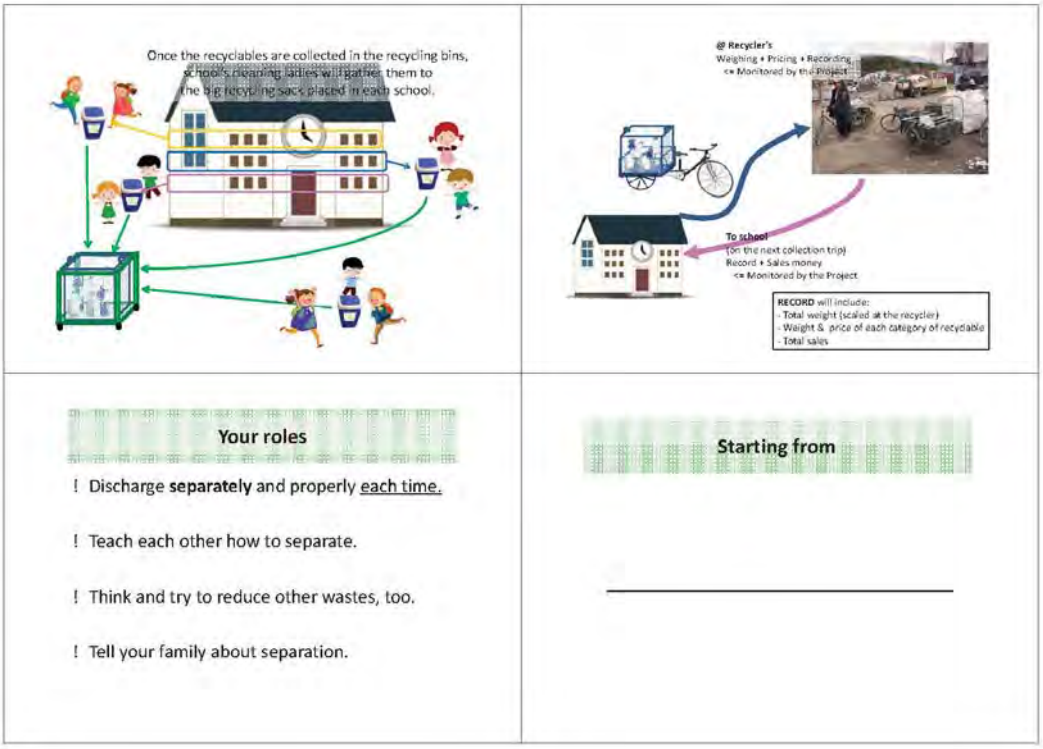
We can REUSE or REDUCE by refusing them (not accepting them, not buying things with unnecessary wrapping materials, replacing with other recyclable things).

Time to Separate to Reduce & Recycle!!

- **What to be separated**

- You will discharge

Recycling bins placed on each floor and in school yards



A.2.3 Progress in each school

Although the schools are all located in one area of Lapraka, each of the five schools have differences in the kinds and amounts of foods and beverages their students consume, and therefore the ways of involving students also differs for each school. By the end of April, each school formed an environmental group which would act as a leader of the PP activity in each school. The groups in all schools, except for one school, consisted of a few representatives from every grade (except for the elementary grades). The group from the school that did not have representatives from each grade, had students from sixth and ninth grade only as representatives, and as a result the school as a whole was not very engaged in the activity and is not satisfactorily familiarized with the rules of separation. By the end of the academic year, the school barely filled up the sack once. While the "usual waste" bins in the school still contained many of the target recyclables.

Table 38: Environmental Group set up in each school

School	Aleks Buda	28 Nentori	Ahmet Gashi	Gjergi Fishta	Skender Luarasi
Grades	10-12 grades	1-9 grades	1-9 grades	1-9 grades	1-9 grades
No. of Students	583	1094	847	598	440
Environmental Group formed	yes	Yes	Yes	Yes	Yes
Participating grades	Representatives from all classes from all grades (10,11,12) and their friends	Class representative from Gr. 3-9	Class representatives from Gr. 6 and 9	Class representatives Gr. from 3~9	Student senators and class representatives from all grades.

Characteristics	Teaching rules to their classmates, monitoring of selling, requesting cooperation to neighboring houses and cafes.	One group per one school building was formed; 2 groups in total.			

The Project hired a field assistant to approach schools continuously for awareness raising and monitoring progress of the activity at each school. The assistant visited the schools on a daily basis and provided instructions for proper discharge of the recyclables and monitoring.

In the beginning of the PP, recycle bins placed in all schools contained many non-target wastes. These non-target wastes included some recyclables (paper, snack bags, plastic straw, etc.), but as mentioned earlier, dealers for these materials have not been found and so these materials were not targeted in this PP. Therefore, the field assistant instructed the school staffs and students to separate only such recyclables including cans, bottles and PET bottles that are targeted under the PP.

As one method of awareness activity, at Aleks Buda High School about 20 student representatives gathered to investigate the contents of the school sack and recycle bins about a half-month after the start of the activity, and measured their weight and quantity. The results of the measurement show more than 90 % of the contents were non-target wastes. Based on this result, a discussion was carried out with the participating students and they pointed out the low level of awareness throughout the school. They proposed organizing discussions in each class to improve awareness.

Table 39: Result of collection of recyclables until the end of academic year in mid-June

			Materialet e Ricklueshme të Grumbulluara													
			PET			Alumin			Glass bottels (Bitter & Suko)			Others				Total sales
School		Date	weight (kg)	leke	(@ leke)	weight (kg)	leke	(@ leke)	Piece	leke	(@ leke)	kinds	weight (kg)	leke	(@ leke)	Leke
Aleks Buda	1	10.05.2016	6.6	130	20	9	720	80		0				0		850
	2	30.05.2016	16	400	25	9	810	90	20	40	2			0		1250
	3	22.06.2016	37	740	20	4	360	90	33	50	1.5			0		1150
28 Nentori	1	06.05.2016	12	240	20	3.2	260	80	40	40	1	glass jar	24	120	5	660
	2	30.05.2016	47	1180	25	6	540	90	25	75	3			0		1795
Gergi Fishta	1	06.05.2016	12	240	20	2.8	220	80		0		iron	4	80	20	540
Skender Luarasi	1	19.05.2016	16	400	25	14	1260	90	300	450	1.5	other bottle	4	32	8	2142
Ahmet Gashi	1	22.06.2016	21	420	20	3	270	90	20	30	1.5			0		720

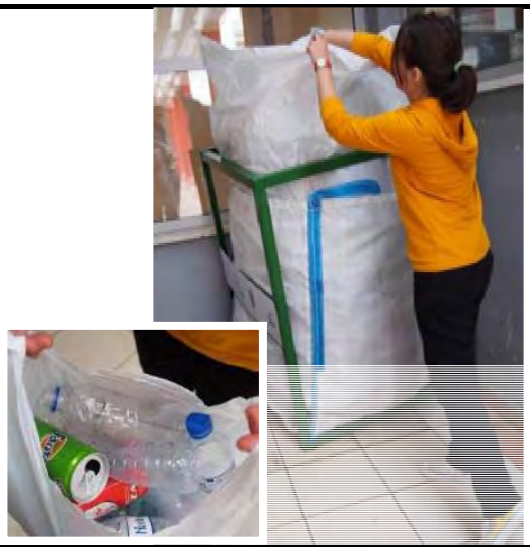
	
The method of discharging the recyclables into the sack at 28 Nentori. In each classroom, the recyclables are separately collected in a shopping bag, then discharged into the school sack.	The recyclables collected in the school sack at 28 Nentori school. Some aluminum cans brought from homes (beer and food cans) are also included, but non-targeted recyclables are rarely found.

Figure 29: Status of separate discharge and collection of the recyclables at schools

Aleks Buda High School and Skender Luarasi School requested cooperation from neighboring cafes at an early stage of the activity, which resulted in larger amounts of aluminum cans in these schools.

During the course of the activity, the recycler, which had expressed his willingness to cooperate with the Project, faced financial difficulties in his business, and the Project was faced with some problems such as the recycler not showing up on the day of collection and not being able make a payment upon the sales by the schools. In this PP, there are a few other recyclers active in the target area and it was possible to find an alternative recycler easily. However, recyclers are commonly considered financially insecure and this problem has indicated a challenge when considering implementation of similar activities in other areas.

One of these schools in particular found a recyclables' dealer located right behind the school. The schools negotiated with this dealer directly and the students pushed their collection frame to the dealer for selling their collected recyclables. This method allows the school to be independent from the municipality and project arrangement and to arrange selling of the recyclables at their own timing, and thus can be considered the most sustainable. However, it is very rare to find a school with such suitable conditions for recyclables collection.

Furthermore, it is also required for a recycler to have one or more directly employed collectors (not only buying from independent collectors) and to have their own means of transportation such as a truck or a motorbike with a cart in order to establish stable cooperation for school-based recyclable collection in this activity.

A.2.4 Questionnaire survey for students and their parents

The questionnaire for students and their parents in the target schools were distributed from the final week of May 2016. However, two out of five target schools seemed to have difficulties in handling the survey in the middle of confusing tasks amid end-of-the-school-year chaos and could not gather valid responses from the parents and one of the schools could not collect valid responses from the students, either.

Based on the results summarized from the valid responses of students collected from 4 schools, separate collection of recyclables was recognized as much as 80% in each school (Q3. a: “I know (the activity) very well and I follow the rules”), but the percentage of the students who correctly understand the three kinds of target recyclables (Q.4) was only about 20%. This could indicate some confusion over the rules, possibly caused by the difference between the target recyclables and those actually discharged in schools in bulk (paper, plastic such as snack bags and others). The possibility of recycling such wastes will continuously be sought.

The levels of understanding about the destination of the collected recyclables differ among schools (Q8. b) is correct). When comparing this result to the observations so far, the schools with the higher rate of correct answers to this question seem to be separating the target recyclables correctly.

On the other hand, in the parents’ survey, the parents seemed to be supportive for the recycling activity in general, and in some cases the parents instructed their children to separate the target recyclables at their home as well. The parents also had relatively high expectations for implementation of the same activity in their community, but their demand for recycling plastics which are not targeted in schools seemed to be high. About 70% of them agreed with utilizing the schools as a base for community recycling activity.

The questionnaire and its results are shown in the following pages.

a Questionnaire for Students

BASHKIA TIRANË

The Project for Support of Waste Minimization and 3R Promotion in the Republic of Albania

School Recycling Activity in Lapraka, Tirane Municipality

STUDENT QUESTIONNAIRE

Name of School:_____

Class:_____

Please answer each question by ticking off (✓) the applicable answer(s).

Q.1. 3R includes three words starting with "R". Do you know which order should we consider to practice?

_____ a. ①Reduce, ②Reuse, ③Recycle
_____ b. ①Recycle, ②Reuse, ③Reduce
_____ c. ①Reuse, ②Recycle, ③Reduce

Q.2. What "recyclable" items do you generate the most in your school? .

_____ a. PET bottles
_____ b. Plastic bags
_____ c. Suko or Bitter glass bottles
_____ d. Paper
_____ e. Aluminum cans

Q.3. Do you know your school is conducting separation of the recyclables? (Select only one the most applicable to your situation.)

_____ a. Yes, I know it very well and I follow the rules.
_____ b. Yes, I know about it and its rules, but I follow the rules only sometimes.
_____ c. Yes, I know about in and its rules, but I never follow the rules.
_____ d. No, I did not know about it.

Q.4. Do you know which of the following items are separated for recycling in your school? Select all applicable.

_____ a. PET bottles
_____ b. Plastic bags
_____ c. Suko or Bitter glass bottle
_____ d. Paper
_____ e. Aluminum cans

Q.5. What do you think about the rules of separation? (Tick off all applicable.)

_____ a. The rules are too complicated.
_____ b. The rules are not practical.
_____ c. I don't know the rules.
_____ d. It's easy to follow.
_____ e. Other: (Please describe:)

Q.6. What do you think of the separation activity?

_____ a. It is worth continuing as it is.

_____ b. It is worth continuing but in a different way.

_____ c. I don't see the point of doing it.

Q.7. What aspect of separate collection of the recyclables do you find the most meaningful to you?

_____ a. It reduces amount of wastes in my school.

_____ b. It helps cleaning our school environment.

_____ c. It helps reducing consumption of natural resources in the world.

_____ d. It earns us some money for a school project.

_____ e. It helps reducing amount of waste discharged from my home.

Q.8. Do you know what happens to the recyclables that are collected in your school?

_____ a. They are discharged when a waste collection truck comes.

_____ b. They are sold to a dealer for recycling.

_____ c. They are discharged to the containers outside the school, from where recyclers pick them up.

_____ d. I have no idea what happens to them.

Q.9. In which subjects do you talk about "recycling" with your classmates most often?

a. Biology

_____ b. Civic Education

_____ c. Knowledge on Nature

_____ d. Others (Please specify:_____)

Q.10. Do you discuss with your family (any of your brother, sister, parents, grandparents, or any other family members who live with you) about the recyclable separation in your school?

_____ a. Yes, I talk about it with my family very often. →Please proceed to Q.11

b. Yes, I have talked about it once or twice. → Please proceed to Q.11.

_____ c. No, I have not talked about it with my family. →Please proceed to Q.13.

Q.11. What were the reactions of your family members when you talked about the school waste separation activity?

_____ a. They were very interested in and wanted to know more. → Please proceed to Q.12.

_____ b. They were interested in but did not discuss it further. → Please proceed to Q.13

_____ c. They were not interested in. → Please proceed to Q.13

Q.12. Please kindly describe what your family are interested in more specifically.

_____

_____

_____

_____

_____

→ Please proceed to Q.13.

Q.13. Are you cautious about where to discharge when you consume these recyclable outside the school?

_____ a. Yes, I am cautious and try to bring them to school for recycling.

_____ b. Yes, I am cautious, but I don't know where to discharge them.

c. No, I don't mind about them.

Thank you very much for your cooperation.

Separate *the resource* and recycle!!

b Result of Student Survey

Q.1

School	a	b	c	(N/A)	Total (No. of Students)	
28 Nentori	36.5	51.5	5.8	6.2	100.0	(274)
Aleks Buda	50.3	30.5	17.8	1.5	100.0	(197)
Ahmet Gashi	40.2	46.4	11.3	2.1	100.0	(97)
Gjergi Fishta	7.3	89.9	1.7	1.1	100.0	(179)
Total	**33.6**	**54.5**	**8.7**	**3.2**	**100.0**	**(747)**

Q.2

School	a	b	c	d	e	Total (No. of Students)
28 Nentori	26.9	15.6	20.1	41.9	35.1	(353)
Aleks Buda	31.5	19.3	13.2	55.3	68.0	(197)
Ahmet Gashi	20.6	28.0	19.4	34.3	22.3	(175)
Gjergi Fishta	33.2	10.8	22.4	43.0	41.3	(223)
Total	**28.2**	**17.5**	**19.1**	**43.6**	**41.0**	**(948)**

Q.3

School	a	b	c	d	(N/A)	Total (No. of Students)	
28 Nentori	78.8	15.7	1.8	2.6	1.1	100.0	(274)
Aleks Buda	79.2	14.7	3.0	2.0	1.0	100.0	(197)
Ahmet Gashi	93.8	4.1	1.0	1.0	0.0	100.0	(97)
Gjergi Fishta	85.5	8.9	3.9	0.6	1.1	100.0	(179)
Total	**82.5**	**12.3**	**2.5**	**1.7**	**0.9**	**100.0**	**(747)**

Q.4

School	Wrong	Correct	Total (No. of Students)	
28 Nentori	78.5	21.5	100.0	(274)
Aleks Buda	81.2	18.8	100.0	(197)
Ahmet Gashi	74.2	25.8	100.0	(97)
Gjergi Fishta	45.3	54.7	100.0	(179)
Total	**70.7**	**29.3**	**100.0**	**(747)**

Q.5

School	a	b	c	d	e	(N/A)	Total (No. of Students)	
28 Nentori	4.4	1.5	3.6	86.1	1.5	2.9	100.0	(274)
Aleks Buda	4.1	1.5	3.6	87.3	2.5	1.0	100.0	(197)
Ahmet Gashi	14.4	5.2	2.1	75.3	3.1	0.0	100.0	(97)
Gjergi Fishta	6.1	3.9	1.1	83.2	2.2	3.4	100.0	(179)
Total	**6.0**	**2.5**	**2.8**	**84.3**	**2.1**	**2.1**	**100.0**	**(747)**

Q.6

School	a	b	c	(N/A)	Total (No. of Students)	
28 Nentori	87.2	9.1	1.8	1.8	100.0	(274)
Aleks Buda	90.9	4.6	3.6	1.0	100.0	(197)
Ahmet Gashi	88.7	8.2	0.0	3.1	100.0	(97)
Gjergi Fishta	91.1	6.7	2.2	0.0	100.0	(179)
Total	**89.3**	**7.2**	**2.1**	**1.3**	**100.0**	**(747)**

Q.7

School	a	b	c	d	e	Total (No. of Students)
28 Nentori	31.0	66.4	6.9	9.1	1.8	(274)
Aleks Buda	23.9	71.1	10.2	23.9	1.0	(197)
Ahmet Gashi	40.2	42.3	13.4	34.0	3.1	(97)
Gjergi Fishta	16.2	39.7	9.5	59.8	1.1	(179)
Total	**26.8**	**58.1**	**9.2**	**28.4**	**1.6**	**(747)**

Q.8

School	a	b	c	d	(N/A)	Total (No. of Students)	
28 Nentori	14.6	32.1	31.0	17.9	4.4	100.0	(274)
Aleks Buda	5.6	61.4	11.2	19.3	2.5	100.0	(197)
Ahmet Gashi	17.5	43.3	11.3	20.6	7.2	100.0	(97)
Gjergi Fishta	4.5	79.3	10.1	4.5	1.7	100.0	(179)
Total	**10.2**	**52.6**	**18.2**	**15.4**	**3.6**	**100.0**	**(747)**

Q.9

School	a	b	c	d	(N/A)	Total (No. of Students)	
28 Nentori	32.5	32.8	24.8	5.5	4.4	100.0	(274)
Aleks Buda	37.1	32.5	7.6	20.8	2.0	100.0	(197)
Ahmet Gashi	50.5	25.8	14.4	5.2	4.1	100.0	(97)
Gjergi Fishta	60.9	3.9	27.4	6.7	1.1	100.0	(179)
Total	42.8	24.9	19.5	9.8	2.9	100.0	**(747)**

Q.10

School	a	b	c	(N/A)	Total (No. of Students)	
28 Nentori	55.1	31.8	10.6	2.6	100.0	(274)
Aleks Buda	37.6	40.6	20.3	1.5	100.0	(197)
Ahmet Gashi	50.5	40.2	4.1	5.2	100.0	(97)
Gjergi Fishta	50.3	40.8	7.3	1.7	100.0	(179)
Total	**48.7**	**37.3**	**11.5**	**2.4**	**100.0**	**(747)**

Q.11

School	a	b	c	(N/A)	Total (No. of Students)	
28 Nentori	53.6	35.4	2.9	8.0	100.0	(274)
Aleks Buda	34.0	45.7	6.6	13.7	100.0	(197)
Ahmet Gashi	56.7	35.1	3.1	5.2	100.0	(97)
Gjergi Fishta	44.1	45.8	5.6	4.5	100.0	(179)
Total	**46.6**	**40.6**	**4.6**	**8.3**	**100.0**	**(747)**

Q.13

School	a	b	c	(N/A)	Total (No. of Students)	
28 Nentori	76.6	13.1	7.3	2.9	100.0	(274)
Aleks Buda	70.1	18.3	9.1	2.5	100.0	(197)
Ahmet Gashi	85.6	10.3	2.1	2.1	100.0	(97)
Gjergi Fishta	87.2	6.1	3.4	3.4	100.0	(179)
Total	**78.6**	**12.4**	**6.2**	**2.8**	**100.0**	**(747)**

c Questionnaire for Parents

BASHKIA TIRANË

The Project for Support of Waste Minimization and 3R Promotion in the Republic of Albania

School Recycling Activity in Lapraka, Tirane Municipality

PARENT QUESTIONNAIRE

School:_____

Class of your child:_____

Please answer each question by ticking off (✓) the applicable answer(s).

Q.1. Do you know the school of your children is conducting separation of recyclables?

_____ a. Yes.

_____ b. No. → Please proceed to Q.3

Q.2. How did you come to know about the school recycling activity?

_____ a. My children told me about it.

_____ b. Teacher of my children informed me.

_____ c. I heard it from other parents.

Q.3. The separation of the recyclables is being conducted as a trial to reduce the waste amount that is discharged in the containers and brought to the Landfill. Have you ever discussed about reducing waste with your child?

_____ a. Yes, even before the school activity we have discussed.

_____ b. Yes, after the school separation activity started we talked about it.

_____ c. No, we have never discussed about it.

Q.4. In school, we currently separate only three kinds of wastes (PET bottles, cans, and small glass juice bottles) and not other types of wastes which may be recycled (such as paper, and plastic bags). This is because at the moment we have not found any dealers active in this neighborhood. Did you know about it?

_____ a. Yes, I knew only 3 kinds of wastes are targeted for the said reason.

_____ b. Yes, I knew only 3 kinds of wastes are targeted but did not know the reason.

_____ c. Yes, I knew only certain kinds are targeted, but did not know exactly which wastes.

_____ d. No, I did not know any details of the activity.

Q.5. Would you like this activity to be expanded to include the recyclables generated in your home?

_____ a. Yes, I would like it to include the recyclables from home. → Please proceed to Q.6

_____ b. No, I think separate collection of the recyclable generated from homes should be done outside of the school. → Please proceed to Q. 7

_____ c. No, I don't think separate collection of the recyclable is necessary.
→ Please proceed to Q. 7

Q.6. Which of the following would be acceptable method for separate collection of the recyclables based in school?

a. On daily basis, our children or the parents (including other adults living in the neighborhoods) to bring the recyclables from home to school

_____ b. On a designated day in a week, our children or the parents (including other adults living in the neighborhoods) to bring the recyclables from home to school.

_____ c. On a designated day in a month, our children or the parents (including other adults living in the neighborhoods) to bring the recyclables from home to school.

→ Please proceed to Q. 7.

Q.7. Are you currently giving the recyclables generated in your home to your child to take them to school for recycling?

a. Yes.

_____ b. No.

Thank you very much for your cooperation.

Please kingly make sure to give this sheet back to the school teacher through your child.

d Result of Parents Survey

Q.1

School	a	b	(N/A)	Total	
28 Nentori	92.7	6.1	1.1	100.0	(262)
Ahmet Gashi	94.1	5.9	0.0	100.0	(101)
Aleks Buda	93.0	6.4	0.6	100.0	(171)
Total	93.1	6.2	0.7	100.0	(534)

Q.2

School	a	b	c	(N/A)	Total	
28 Nentori	88.2	5.0	1.9	5.0	100.0	(262)
Ahmet Gashi	94.1	4.0	0.0	2.0	100.0	(101)
Aleks Buda	92.4	2.3	0.6	4.7	100.0	(171)
Total	90.6	3.9	1.1	4.3	100.0	(534)

Q.3

School	a	b	c	(N/A)	Total	
28 Nentori	41.6	47.3	9.9	1.1	100.0	(262)
Ahmet Gashi	53.5	41.6	4.0	1.0	100.0	(101)
Aleks Buda	40.9	46.8	11.7	0.6	100.0	(171)
Total	43.6	46.1	9.4	0.9	100.0	(534)

Q.4

School	a	b	c	d	(N/A)	Total	
28 Nentori	52.7	12.6	22.9	9.5	2.3	100.0	(262)
Ahmet Gashi	62.4	6.9	18.8	10.9	1.0	100.0	(101)
Aleks Buda	39.8	29.2	21.6	8.2	1.2	100.0	(171)
Total	50.4	16.9	21.7	9.4	1.7	100.0	(534)

Q.5

School	a	b	c	(N/A)	Total	
28 Nentori	67.2	24.0	0.0	6.9	100.0	(262)
Ahmet Gashi	64.4	26.7	0.0	7.9	100.0	(101)
Aleks Buda	69.0	29.8	0.0	1.2	100.0	(171)
Total	67.2	26.4	0.0	5.2	100.0	(534)

Q.6

School	a	b	c	(N/A)	Total	
28 Nentori	29.0	45.0	8.8	17.2	100.0	(262)
Ahmet Gashi	31.7	41.6	15.8	10.9	100.0	(101)
Aleks Buda	20.5	59.6	7.6	12.3	100.0	(171)
Total	26.8	49.1	9.7	14.4	100.0	(534)

Q.7

School	a	b	(N/A)	Total	
28 Nentori	52.7	41.2	6.1	100.0	(262)
Ahmet Gashi	32.7	57.4	9.9	100.0	(101)
Aleks Buda	43.3	52.6	4.1	100.0	(171)
Total	45.9	47.9	6.2	100.0	(534)

A.2.5 Lapraka 5-school meeting

A meeting was held on 6th June in Aleks Buda High School in Lapraka area for the purposes that the schools come to know these activities of other schools and more actively promote them, with participations of the teachers in charge of the PP activity and the principals from the five schools as well as Tirana education directorate, MoE, and Tirana Municipality, reviewing their progress so far.

The participants unanimously agreed that this activity should not be for the purpose of "gaining money" but to "establish the habit of separation".

The meeting created a positive atmosphere where some schools were motivated to raise awareness in their community by other schools that had already started involving their community in their recycling activities.

The agenda, the handouts and the minutes of the meeting are shown in the following pages.

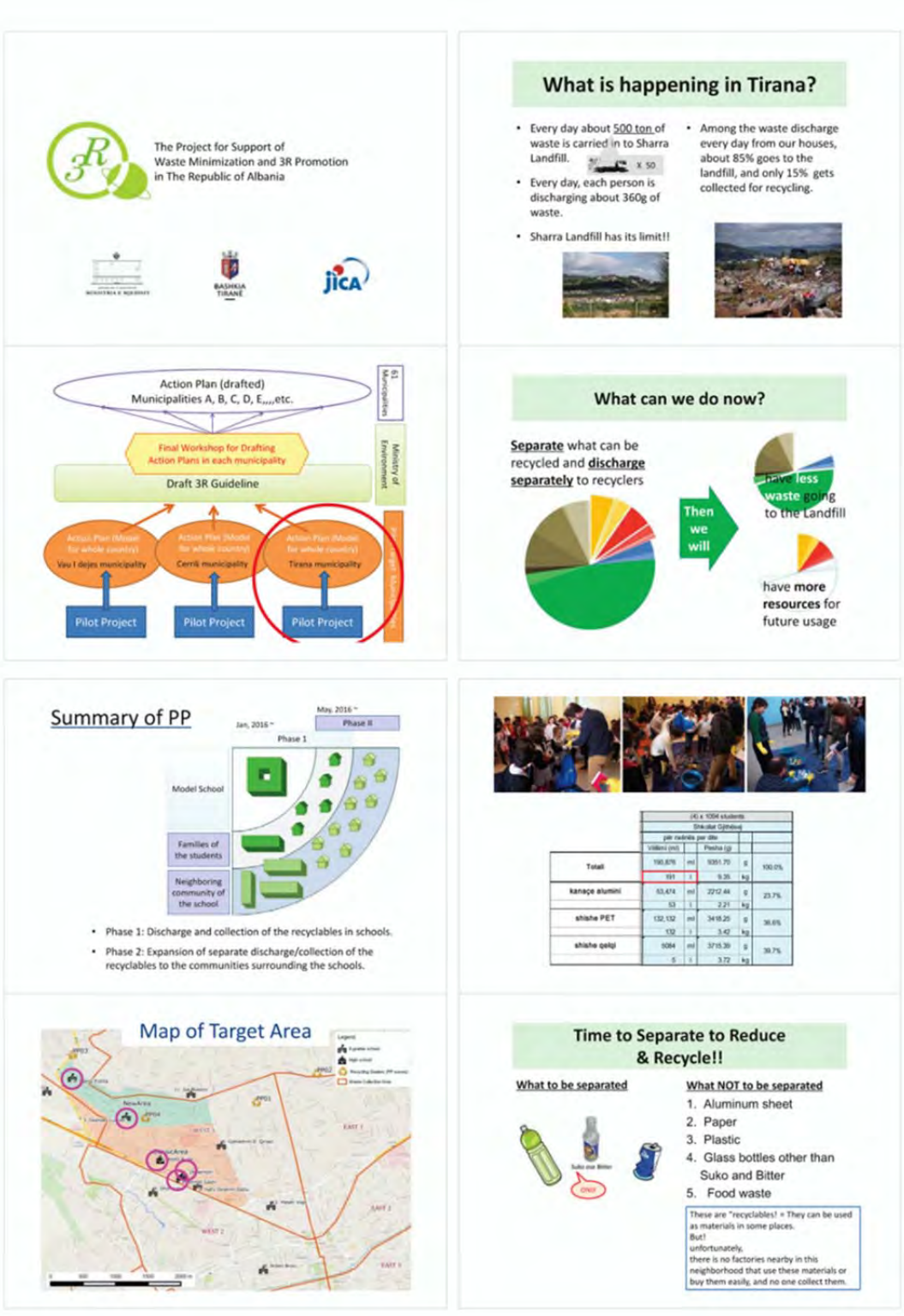
a Agenda

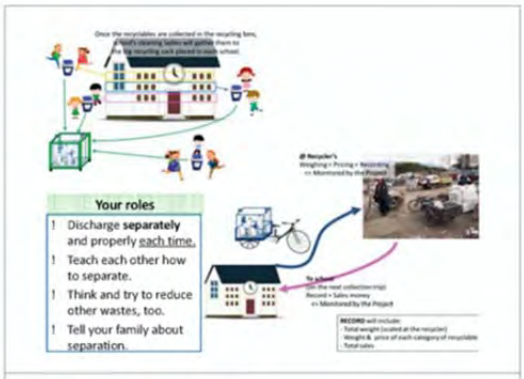
Date: 06 June 2016
Venue: Aleks Buda School
Participated schools:

- 28 Nentori
- Ahmet Gashi
- Gergji Fishta
- Skender Luarasi
- Aleks Buda

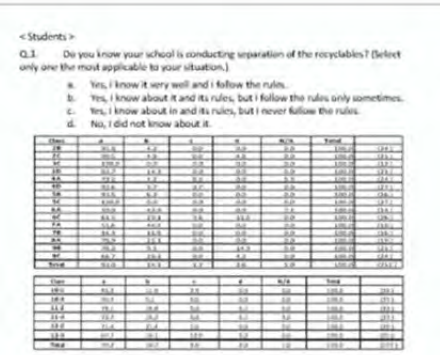
Agenda:
1. Background – Short outline of the Project, and how it started in Lapraka
2. Progress so far (from the Project side) and Results of Survey – as many as possible
3. Brief introduction by each school on how their students are working
4. Discussion
   1) How to manage the money earned? – Transparency to students as well as parents
   2) What seems to be working effectively in schools?
   3) How can we improve? - Next step forward within schools
   4) How to involve community – Do we need/want to involve the community?

b Handouts to Participants

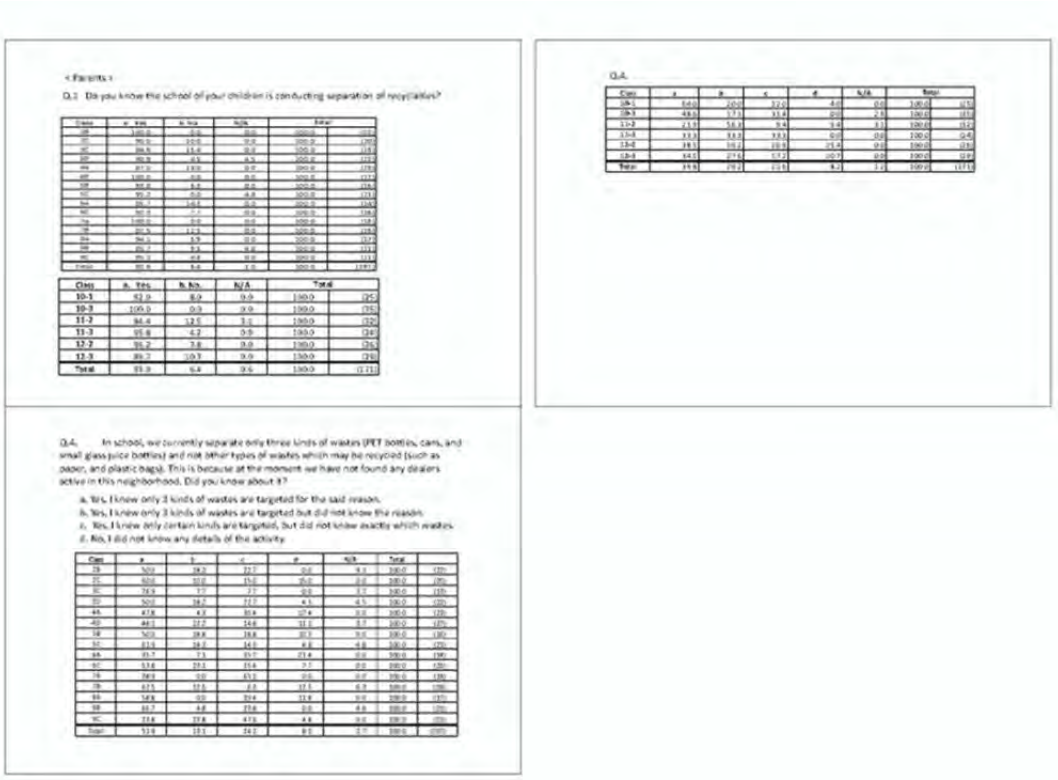




Outline of Pilot Project	Expected Outcomes	Evaluation Indicators
Phase I School Recycling activity as an approach to the surrounding community	1. Among the waste generated in school, PET bottle, the amount of aluminum cans, and small juice bottles discharged to municipal containers will be reduced.	1. The amount of PET bottles, aluminum cans, and targeted glass bottles discharged for recycling from the schools. (Record of the amount separated and sold by schools)
	2. Students will realize the amount of waste discharged from their schools and recognize the effect of separate discharge of the recyclables through the activity.	2. Degree of improvement in students awareness toward separate discharge of the recyclables. (by questionnaire)
	3. The students' awareness of separate discharging of the recyclables will be communicated to their families and the neighboring community of the schools.	3. Parents of the students in the target schools recognize the recycling activity being carried out in the schools. (Questionnaire to the parents)



Shkolla	Hera e 1				Hera e 2			
	PET	Alum.	Qelizi	Te Tjera	PET	Alum.	Qelizi	Te Tjera
28 Nentori	12kg (240Lk)	3.2kg (260Lk)	40 cope (40Lk)	Kavanoza 24kg (120Lk)				
Aleks Buda	6.6 kg (130 Lk)	9 kg (720 Lk)	0 kg					
Gjergj Fishta	12kg (240Lk)	2.8kg (220Lk)	0 kg	Hekur 4kg (80 Lk)				
Skender Luarasi								
Ahmet Gashi								



c List of Participants

Ms.	Isida	LARTI	Gjergi Fishta
Ms..	Artemida	HEQIMI	Gjergi Fishta
Ms..	Donjeta	KAPLLANI	Gjergi Fishta
Mr.	Luigj	MARKU	Ahmet Gashi
Ms..	Marjeta	RAMAJ	Ahmet Gashi
Ms..	Ardina	PRENDUSHI	28 Nentori
Ms..	Silva	GAMBETA	28 Nentori
Ms..	Valdet	BUJUPI	Aleks Buda
Ms..	Fatbardha	HANA	Aleks Buda
Ms..	Marjeta	PROKO	Skender Luarasi
Ms..	Arjola	HASA	Skender Luarasi
Ms..	Diana	DAJKO	Drejtoria Arsimore
Mr.	Polikron	HORESHKA	Ministria e Mjedisit
Ms..	Blerta	DAKLI	Bashikia Tirane

d Minutes

Lapraka 5-Shool Meeting

2016/06/06

@Aleks Buda School

Ms. Nishi explained the back ground of the pilot project and reported the progress made by the project so far.

She also reported the the result of the questionnaire survey which measures the extent of the recognition and understanding of the pilot project. The result shows that 80 percent of the students know about the project but only 20 percent of the students understand well about what they are collecting. As for the parents of the students, more than 90 percent knows about the project but 50 of them understand well about the target materials.

Then, the representatives from each school introduced the current situation and discussed on the improvement of the management and transparency. The summary of discussion is shown below.

School	Content
Aleks Buda	They think awareness is quite important factor They are conducting several activities to enhance awareness -Meeting between head teacher and students -Making students group which works outside of school to collect recyclables from the community. The group will work in summer vacation also They introduced bin for general waste next to the bins for recyclable. They put a kind of message on the wall for better awareness which was covered by the money they earned from selling the recyclables. They are interested in collection of paper. They got a phone number of a recycler who deals paper.
Skender Luarasi	They have started the activity in school and they have already collected from student's house (phase 1). They are going to start the activity in the community (phase 2). They are discussing what they can do for better awareness with the money they earned from selling recyclables. They might conduct certain activity in summer vacation so that students can start the activity in better situation, higher

	motivation in September. They will organize working group consisted of students and teachers.
Gergji Fishta	Their students had known about the "3R" through a certain project conducted before this project. They have working group about 3R which consists of students. The group was organized in the previous project but it is also working for this project. The group participated in the meeting with parents of students of the school.
28 Nentori	They have worked a lot about 3R so far. During the lessons, the teachers explained about this project to students with the simple words and figures. However, they faced with the difficulty since there is no culture of separation in Albania. Paper was discharged in the bins for the recyclable. -The teachers repeatedly explained to students -They started the competition of the amount of the recyclable among schools. In the school meeting, the students who collected the largest amount was prized.
Ahmet Gashi	The have a small amount of the recyclable. They want to collect paper which they generate more than the other recyclables.
Ms. Nish	-It would be difficult to add paper as target recyclable since the least amount that recyclers accept is quite large and a large stock would be required in school. However, since the Aleks Buda has found a recycler who deals paper, we can seek the possibility. -We shouldn't focus on only money.
Mr. Fatos	-Soft plastic is difficult item since there are 3 categories of the soft plastic and they are difficult to be distinguished.
Education directorate	-Education is important, but we are lack of education. -This PP is good opportunity for the education to make the behavior of separation their habit. -Everyone; ministry, municipality, school and community should cooperate each other
Ministry of Environment	-Awareness is important -It is important to let students know that recyclables have some

	value, not waste. -Any questions about waste management can be done to the Ministry of Environment.
Tirana Municipality	-We would like to precede the pilot project in cooperation of Tirana municipality with the slogan of "Eco Tirana" and also related organizations.

A.3 Findings from Phase 1 (Separate collection of recyclables at schools)

The following effects and points which should be noted when carrying out separate collection of recyclables at school were clarified through implementation of Phase 1 activity.

A.3.1 Expected impacts

- Having the activity implemented in schools existing in the same neighborhood, siblings from one family that go to different schools in the neighborhood can share the same rules, and the students can continue the same activity even after moving up to a higher level of school in the neighborhood. These factors are supportive of making waste separation a habit for them.
- Since the activity is implemented in school, the activity carries an educational aspect and parents of the students try to set an example and start separation of the recyclables at their homes.
- Limiting the kinds of recyclables separated at schools (in Tirana PP, only PET bottles, small glass juice bottles, and metal cans), questions have been prompted such as "why is paper not collected?" "why are plastic shopping bags and snack bags not collected?" This has helped increease understanding about the current situation of recycling in the area among the adults in the community.
- Many citizens are separately discharging the recyclables by realizing they could be a source of income for waste pickers. By involving the collectors and recyclers that are actually active in the neighborhood, it can be avoided to hinder the good-will of the citizens when they consider cooperating in the activity.

A.3.2 Points to be noted upon implementation

- It is a must to set the route from the point of separate discharge (the entrance) through collection and selling (the exit) prior to starting the separate discharge. Otherwise, the recyclables discharged by students will end up being accumulated in the school, or being discharged with other wastes, wasting the students' efforts of discharging separately. Such a failure will prevent implementing the "next" activity and should be avoided by designing initially from the entrance through the exit.
- It is necessary to establish a system to monitor the activity by the municipality and/or schools themselves, in order to secure the prompt communication between the collector(s) and schools.
- It is recommended to have several collectors active in the target area and ready to cooperate in the contact list, rather than depending on only one. It is also recommended to secure collector(s) who have their own means of transportation as long as the school-based activity is concerned.

- Teachers as well students tend to get more interested in the earnings from the selling of recyclables rather than separation activity itself. It is necessary to remind them clearly occasionally "why separation and recycling are necessary."
- If the separate collection of recyclables is already implemented in the neighborhood where the target schools of the activity are located, it is necessary for the school activity to follow the same rule of separation in the neighborhood. (For example, if the neighborhood has a system which requires separation of the recyclables into four kinds and to discharge in different colors of containers, the school should also have the same four colors of containers.) If the neighborhood does not have separate collection yet, it is possible to install color-coded recycling bins according to the kinds of recyclables dealt by the available collectors or according to the categorization that the collectors may request. However, the categorization should be simple so that students can easily follow. In Tirana PP, one collector could collect all PET bottles, glasses, and cans together, and thus the separation would be done in two categories of the target recyclables and non-recyclables.

B. Phase 2

B.1 Outline of Phase 2

The outline of Phase 2 agreed upon in January 2016 with Tirana Municipality is as follows.

Phase 2 (May, 2016 ~ December, 2016)	
Objectives	Establishing rules for separately discharging the recyclables.
Target area	Lapraka area
Target	Surrounding communities of public schools in Lapraka
Issues:	・All wastes including wastes from schools are discharged in containers in the entire area, thus the recyclables are all mixed and discharged with the other municipal wastes. ・Recyclers (WP) collects recyclables by picking up their desired recyclables, which results in waste scattering around the containers. ・Not all recyclables can be separated in the above-mentioned way and the wastes transported to the disposal site include a certain amount of the recyclables.
Goals	1. Community residents will understand the significance and rules of separate discharge of the recyclables. 2. The amount of recyclables discharged in to the communal containers in Lapraka area will be reduced by a certain amount. 3. The areas around the communal containers placed in Lapraka will be kept clean.
Procedure	1. Through informing the residents of the separate discharge/collection by the pupils and students of the nearby schoools, the interest in separate discharge will increase among residents. 2. Decide on the target recyclables separated by the community residents. The target recyclables may include such recyclables that are not targeted at school due to the limited amount discharged in schools. 3. Considering the results of discussions with the community residents, characteristics of the neighborhoods, and the larger plan of the Tirana municipality, the appropriate method of discharge will be decided. (Option 1: separate recyclables to be discharged on designated dates⇒ collection by recyclers of households; Option 2: allocate a place for separate discharge of the recyclables in the neighborhood (school / new location / others) ⇒ collection by recyclers; any other options will also be considered.) 4. Setting rules according to the decided method of discharge/collection,

	and informing the residents of these rules. 5. Starting separate discharge (and collection) (aiming to start by the end of June 2016) 6. Monitoring (amount of discharged recyclables, discharge manner, cost, interviews with recyclers, management of the discharge location, etc.)
Roles and responsibilities	【Tirana Municipality】 ● Communication, setting up and participating in discussions with the target schools and residents. ● Continuation of collection of municipal waste as it is. ● Assisting development of materials for public awareness ● Discussion with recyclers for collaboration with collection ● Monitoring ● Sharing the result of monitoring with the communities (as a part of community awareness activity) ● Updating any information regarding the separate collection at the municipality level (formalization of recyclers, etc.) 【Target schools】 ● Continuation of separate discharge at schools. ● Provision of venue for community meetings (if necessary) ● Provision of a space for containers of recyclables for the community (if necessary) 【JET】 ● Cost of developing public awareness materials ● Cost of containers for recyclables (if necessary) ● Assisting communication with schools ● Discussion with recyclers for collaboration with collection ● Assisting monitoring ● Assisting sharing the result of monitoring with the communities
Evaluation	1. The amount of recyclables discharged in to the communal containers will be reduced. 2. Separate discharge/ collection will continue. 3. The areas around communal containers will be kept clean.

B.2 Progress of activities

In the actual implementation of activities, the schools developed ways of implementation which are different from each other and according to the characteristics of the surrounding community of each school. The method of implementation of each school is summarized in the table below.

Table 40: Methods of recyclable collection from the community by the 5 schools in Lapraka

Name of schools	Activity with the community	Ways of selling
28 Nentori	A request was made from the school to the students' parents to separate recyclables at home and have the students bring them to school once a week for collection.	Monitoring staff contacted the dealer for selling. When the dealer could not arrange transportation for collection from the schools, the monitoring staff hired a small truck from the nearby streets to transport recyclables
Ahmet Gashi	A request was made from the school to the students' parents to separate recyclables at home and have the students bring them to school once a week for collection.	
Aleks Buda	Their environmental group was divided into three smaller groups, and recyclables were collected from three cafes. The collection was done 3 to 4 times a week. Prior to the beginning of the activity,	

	the group developed awareness materials and distributed it to cafes in the community during their summer break, requesting cooperation.	from the schools to the dealer for selling. The sales money was brought back to each school by the monitoring staff.
Gjergi Fishta	This school is located in the neighborhood where they can expect minimum volume of recyclables to be discharged within the school as well as at home. Therefore separating recyclables at home and bringing them to the school was done voluntarily.	The school dealt with its neighboring dealer directly.
Skender Luarasi	This school is located in the neighborhood where they can expect minimum volume of recyclables to be discharged within the school as well as at home. They did not ask students to bring in the recyclables from home, but the group of students developed awareness materials about separation and recycling.	(For selling the recyclables collected within the school, the monitoring staff contacted the dealer.)

The table below shows the comparison of the average daily amounts of recyclable waste collected in three schools (28 Nentori, Ahmet Gashi, Aleks Buda) which actively participated in the recyclable collection from the community among the target five schools between the first phase (mainly the separation and collection period only in school) and the second phase (separate collection activity from the outside of the school). (The average daily amount of recyclables = the weight scaled at the time of sales divided by the number of school days).

Table 41: Daily average collection amount of recyclables compared between 1st phase and 2nd phase

Name of School	Period of Collection (MM/DD-MM/DD)	No. of school days	PET	Aluminum	Glass
28 Nentori	04/18-05/30	26	0.77	0.35	2.5
	09/19-11/16	41	1.37	0.20	1.95
Ahmet Gashi	04/18-05/30	26	0.81	0.12	0.77
	09/19-10/27	27	2.96	0.30	0.22
Aleks Buda	04/18-06/17	44	1.35	0.50	1.20
	10/25-11/30	21	2.22	1.00	0.82

28 Nentori School gave an instruction to “bring all recyclables to the school” while requesting cooperation for recyclables collection from home in Phase 2. Many families in this community already have their “usual guys” to hand over the recyclables and felt discouraged by the school’s initiatives, which resulted in the drop of cooperating families in November. Despite this, the average daily collection amount of PET bottles during Phase 2 is larger than the one in Phase 1. Meanwhile, Ahmet Gashi school, which did not have a major problem and continues working with cooperating families, tripled its collection amounts of PET bottles and aluminum cans in the same time period.

Aleks Buda high school, where three student groups worked with three cafes for collection of recyclables, also had a large increase.

In every school, the average daily collection amount of glass bottles decreased in Phase 2.

One factor behind this may be the decreased consumption of drinks themselves due to seasonal decrease of temperature.

B.3 Questionnaire survey for students and parents (post-PP)

B.3.1 Samples

In February 2017, in order to see the level of awareness among the students and the parents after implementation of the PP, a questionnaire survey was conducted. In four schools out of the five targeted schools, five students were selected from each class in principle, and twenty to thirty were called in one room to fill in the questionnaire at one time. Moreover, a parent questionnaire was distributed to the abovementioned students who passed them on to their parents, and the filled in forms were collected on the following day. The sample numbers in each school are shown below.

Table 42: Number of samples of Post-PP Student questionnaire survey

School	Grade	Class	No. of Samples	Total for Grade
Ahmet Gashi	Grade 3	3A	5	16
		3B	5	
		3C	6	
	Grade 4	4A	4	14
		4B	5	
		4C	5	
	Grade 5	5A	7	12
		5B	5	
	Grade 6	6A	5	15
		6B	5	
		6C	5	
	Grade 7	7A	5	16
		7B	5	
		7C	6	
	Grade 8	8A	4	15
		8B	6	
		8C	5	
	Grade 9	9B	8	13
		9C	5	
	N/A	N/A	1	1
	Total		102	102
28 Nentori	Grade 3	3a	3	16
		3b	5	
		3c	4	
		3d	4	
	Grade 4	4a	6	25
		4b	8	
		4c	5	
		4d	6	

School	Grade	Class	No. of Samples	Total for Grade
	Grade 5	5a	5	20
		5b	8	
		5c	6	
		5d	1	
	Grade 6	6a	5	20
		6b	7	
		6d	8	
	Grade 7	7a	5	19
		7b	5	
		7c	5	
		7d	4	
	Grade 8	8A	6	25
		8B	6	
		8C	7	
		8D	6	
	Grade 9	9A	7	7
	N/A	N/A	1	1
	Total		**133**	**133**
Skender Luarasi	Grade 3	3A	9	9
	Grade 5	5A	1	10
		5B	9	
	Grade 6	6A	6	11
		6B	5	
	Grade 7	7A	5	10
		7B	5	
	Grade 8	8A	5	10
		8B	5	
	Grade 9	9A	5	11
		9B	6	
	Total		**61**	**61**
Aleks Buda	Grade 10	x-1	5	33
		x-2	5	
		X-3	4	
		X-4	4	
		x-5	5	
		x-6	5	
		x-8	5	
	Grade 11	XI-1	5	36
		XI-2	5	
		XI-3	6	
		XI-4	4	
		XI-5	6	

School	Grade	Class	No. of Samples	Total for Grade
		XI-6	5	
		XI-7	5	
	Grade 12	XII-1	4	25
		XII-2	6	
		XII-3	5	
		XII-4	5	
		XII-5	5	
	N/A	(N/A)	1	1
	Total		**95**	**95**

Table 43: Number of samples of Post-PP Parent questionnaire survey

School	Grade	Class	No. of Sample	Total for Grade
Ahmet Gashi	Grade 3	3A	9	10
		3B	1	
	Grade 4	5A	2	11
		5B	9	
	Grarde 6	6A	5	9
		6B	4	
	Grade 7	7A	5	11
		7B	6	
	Grade 8	8A	2	2
	Total		**43**	**43**
28 Nentori	Grade 4	4a	1	5
		4c	3	
		4d	1	
	Grade 5	5b	6	11
		5c	5	
	Grade 6	6a	3	9
		6d	6	
	Grade 7	7a	4	16
		7b	5	
		7c	5	
		7d	2	
	Grade 8	8a	7	23
		8b	2	
		8C	9	
		8d	5	
	N/A	(N/A)	1	1
	Total	Total	65	65
Skender Luarasi	Grade 3	3A	9	10
		3B	1	
	Grade 5	5A	2	11

School	Grade	Class	No. of Sample	Total for Grade
		5B	9	
	Grade 6	6A	5	9
		6B	4	
	Grade 7	7A	5	11
		7B	6	
	Grade 8	8A	4	9
		8B	5	
	Grade 9	9A	5	11
		9B	6	
	N/A	(空白)	1	1
	Total	**Total**	**62**	**62**

Please note that the responses obtained from Aleks Buda schools for the parent survey were not considered valid.

B.3.2 Student Questionnaire

February 2017

BASHKIA TIRANË

The Project for Support of Waste Minimization and 3R Promotion in the Republic of Albania

School Recycling Activity in Lapraka, Tirane Municipality

STUDENT QUESTIONNAIRE

Name of School:_____

Class:_____

Please answer each question by ticking off (✓) the applicable answer(s).

PART I: Please tell us about the recyclable waste that are generated **within your school.**

Q.1. Did you know your school was conducting separation of the recyclables last year? (Select only one the most applicable to your situation.)

_____ a. Yes, I knew it very well and I follow the rules.
_____ b. Yes, I knew about it and its rules, but I followed the rules only sometimes.
_____ c. Yes, I knew about in and its rules, but I never followed the rules.
_____ d. No, I did not know about it.

Q.2. Does your school still continue the same activity?

_____ a. Yes, we are continuing.
_____ b. No, we stopped it completely.
_____ c. I don't know.

Q.3. What do you think of the separation of the recyclables generated in school?

_____ a. It is worth continuing as it is.
_____ b. It is worth continuing but in a different way. (Please describe:_____
_____)
_____ c. I don't see the point of doing it.

PART II: Please tell us about the recyclable waste that are generated **at your home.**

Q.4. Does your family separate the recyclables generated in your house?

_____ a. Yes, we do separate the recyclables and discharge them separately. → Please proceed to Q.5.
_____ b. No. we discharge everything all together.
_____ c. I don't know how the waste is treated at my house.

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Q.5. How does your family treat the separated recyclables?

_____ a. I (or my brother/ sister) bring to the school and discharge as the recyclables.
_____ b. My family gives them to someone who comes to collect them from my house.
_____ c. My family takes them to the communal waste container and put them separately.
_____ d. I don't know.

PART III: Please tell us about the recycling activity in general.

Q.6. Do you know which of the following items were (and are) separated for recycling in your school? Select **all applicable**.

_____ a. PET bottles
_____ b. Plastic bags
_____ c. Plastic bottles
_____ d. Suko or Bitter glass bottle
_____ e. Paper
_____ f. Steel cans
_____ g. Beer bottles
_____ h. Glass jars

Q.7. Do you know what happens to the recyclables that are collected in your school?

_____ a. They are discharged when a waste collection truck comes.
_____ b. They are sold to a dealer for recycling.
_____ c. They are discharged to the containers outside the school, from where recyclers pick them up.
_____ d. I have no idea what happens to them.

Q.8. What do you think about the rules of separation? (Tick off (✓) **all applicable**.)

_____ a. The rules are too complicated.
_____ b. The rules are not practical.
_____ c. I don't know the rules.
_____ d. It's easy to follow.
_____ e. Other: (Please describe: _____)

Q.9. Which part of the separation activity did (do) you cooperate? Please check (✓) all applicable.

_____ a. Discharging the target recyclables in a designated bin when I throw them away.
_____ b. Checking the recycling bins if any wrong waste is mixed.
_____ c. Advising other students to separately discharge the recyclables.
_____ d. Bringing in the recyclables collected at home to school.
_____ e. Helping the cleaners (and the environmental group members) when separating wrongly discharged wastes from the recyclables.
_____ f. When selling the recyclables to the collector.
_____ g. Any other way of cooperation: (Please describe: _____)
_____ h. I didn't (don't) participate in any parts of the activity.

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Q.10. What do you think of the separation activity?

_____ a. It is worth continuing as it is. → Please proceed to Q.11.

_____ b. It is worth continuing but in a different way. → Please proceed to Q.11.

_____ c. I don't see the point of doing it. → Please proceed to Q.12. .

Q.11. What aspect of separate collection of the recyclables do you find the most meaningful to you?

_____ a. It reduces amount of wastes in my school.

_____ b. It helps cleaning our school environment.

_____ c. It helps reducing consumption of natural resources in the world.

_____ d. It earns us some money for a school project.

_____ e. It helps reducing amount of waste discharged from my home.

Q.12. Do you discuss with your family (any of your brother, sister, parents, grandparents, or any other family members who live with you) about the recyclable separation in your school?

_____ a. Yes, I talk about it with my family very often.

_____ b. Yes, I have talked about it once or twice.

_____ c. No, I have not talked about it with my family.

Thank you very much for your cooperation.

Separate *the resource* and recycle!!

B.3.3 Parent Questionnaire

The Project for Support of Waste Minimization and 3R Promotion in the Republic of Albania

School Recycling Activity in Lapraka, Tirane Municipality

PARENT QUESTIONNAIRE

School:_____

Class of your child:_____

Please answer each question by ticking off (✓) the applicable answer(s).

Q.1. Did you know that the school was collecting the recyclables wastes generated at student home in last semester as a part of school recycling activity?

_____ a. Yes. → Please proceed to Q.2 and onward.

_____ b. No.→ Please proceed to Q.3 and on ward

Q.2. Did you participate in the activity?

_____ a. Yes. Our family sent our recyclables to the school through our child(ren).

_____ b. No. Our family has given the recyclables to collectors who come to our neighborhood (or home).

_____ c. No, we did not separate any recyclables in last semester.

Q.3. Is the school continuing the activity?

_____ a. Yes, and our family cooperate by giving recyclables to the school.

_____ b. Yes, but our family gives the recyclables to collectors.

_____ c. Yes, but we do not separate the recyclables. → Please proceed to Q.5

_____ d. No, the activity has stopped. → Please proceed to Q.4

Q.4. Do you want the school to continue the activity?

_____ a. Yes, I would like the school to continue the recyclable collection activity .

_____ b. No, I think it should not continue.

Q.5. Can you tell the reasons that you do not separating the recyclables?

_____ a. Our child(ren) do not like to take the recyclables to the school.

_____ b. I don't find recycling meaningful.

_____ c. I have found problems in the activities. (Please kindly describe the problems you found.

_____

_____.)

(Please turn over and continue to Q.6)

Q.6. Tirana municipality has started the separate discharge of the recyclables in the central area of the city since last October by allocating two types of communal containers at each discharge points. Are you ready to cooperate in the same system if it is implemented in Lapraka area?

_____ a. Yes. I am ready for immediate implementation.
_____ b. I need more information about it before its starting here. → Please proceed to Q.7
_____ c. No. I don't want such system in our neighborhood. → Please proceed to Q8

Q.7. What kind of information would you like to have?

_____ a. kinds of waste to be separated
_____ b. how they are collected
_____ c. whey they are collected
_____ d. what changes / impacts it will make to our life
_____ e. Others: (Please specify: _____
_____ .)

Q.8. Can you tell us why you do not like?

_____
_____
_____.

Thank you very much for your cooperation.
Please kingly make sure to give this sheet back to the school.

B.3.4 Result of the Survey

From the result of the post-PP survey, the following aspects can be found.

1. Generally students were aware of the activity.

Since the PP itself finished in December, the students were asked if they knew that the separation of recyclables were being conducted "until the last semester" (Q.1), and 90% of the students said they knew this and followed the rules.

It was found that the activity is continued in each school. In 28 Nentori school, during the implementation of PP, there was some resistance found towards the instruction given by the teacher on the method of activity and this resulted in a reduction of collection. According to the interviews from students, school staffs and the involved teachers, the resistance seems to stem from attempting to forcefully direct the parents to discharge the recyclables at schools, changing from the voluntary discharge of recyclables from home to waste pickers.

[Student Q.1] Did you know your school was conducting separation of the recyclables last year? (Select only one — the most applicable to your situation.)

_____ a. Yes, I knew it very well and I followed the rules.

_____ b. Yes, I knew about it and its rules, but I followed the rules only sometimes.

_____ c. Yes, I knew about in and its rules, but I never followed the rules.

_____ d. No, I did not know about it.

School	a	b	c	d	N/A	Total	(Number of Samples)
Ahmet Gashi	76%	11%	0%	13%	0%	100%	(102)
28 Nentori	83%	9%	1%	6%	1%	100%	(133)
Skender Luarasi	98%	2%	0%	0%	0%	100%	(61)
Aleks Buda	81%	7%	3%	8%	0%	100%	(95)

[Student Q.2] . Does your school still continue the same activity?

_____ a. Yes, we are continuing it.

_____ b. No, we stopped it completely.

_____ c. I don't know.

School	a	b	c	N/A	Total	(Number of Samples)
Ahmet Gashi	94%	0%	6%	0%	100%	(102)
28 Nentori	65%	1%	34%	1%	100%	(133)
Skender Luarasi	98%	0%	2%	0%	100%	(61)
Aleks Buda	89%	2%	8%	0%	100%	(95)

2. The students are more concerned about waste and school environment than money collected from the activity.

When asked what aspects of the separation collection they found meaningful (Q.11), the students seem to be more interested in its role in reducing the waste amount in school and its helping to keep their schools clean, rather than the money earned from collection activity (d). However, this might be a result of the amount of money actually earned from selling the

recyclables, which was much less than they had expected. Nonetheless, it can still be appreciated that they are involved in these activities and are being conscious about the environment.

It is also indicated that the separate collection in school has become a topic of their family conversions (Q.12).

[Student Q.11] What aspect of separate collection of the recyclables do you find the most meaningful to you?

_____ a. It reduces amount of wastes in my school.

_____ b. It helps to clean our school environment.

_____ c. It helps reduce consumption of natural resources in the world.

_____ d. It earns us some money for school projects.

_____ e. It helps reduce amount of waste discharged from my home.

School	a	b	c	d	e	(Number of Samples)
Ahmet Gashi	49%	59%	22%	33%	6%	(102)
28 Nentori	46%	55%	20%	18%	8%	(130)
Skeder Luarasi	18%	90%	11%	11%	2%	(61)
Aleks Buda	56%	42%	16%	5%	0%	(91)

[Student Q.12] Do you discuss with your family (any of your brothers, sisters, parents, grandparents, or any other family members who live with you) about the recyclable separation in your school?

_____ a. Yes, I talk about it with my family very often.

_____ b. Yes, I have talked about it once or twice.

_____ c. No, I have not talked about it with my family.

School	a	b	c	(N/A)	Total	(Number of Samples)
Ahmet Gashi	68%	25%	7%	1%	100%	(102)
28 Nentori	63%	28%	8%	2%	100%	(133)
Skeder Luarasi	90%	2%	8%	0%	0%	(61)
Aleks Buda	35%	32%	18%	16%	100%	(95)

3. Lapraka is aware of and prepared for recycling.

Alhough it is not objective evidence, it seems that the parents who took part in the school separation activity are more conscious of waste separation and are ready to accept sorted collection by city services (Q.6), and it is understood that the children are conscious of separation activities at their homes (Q.4).

[Parent Q.6] Tirana municipality has started separate discharge of recyclables in the central area of the city since last October by allocating two types of communal containers at each discharge point. Are you ready to cooperate in the same system if it is implemented in Lapraka area?

_____ a. Yes. I am ready for immediate implementation.

_____ b. I need more information about it before its starting here.

_____ c. No. I don't want such a system in our neighborhood.

School	a	b	c	Total	(Number of Samples)
Ahmet Gashi	88.37%	11.63%	0.00%	100.00%	(43)
28 Nentori	76.92%	20.00%	3.08%	100.00%	(65)
Skeder Luarasi	88.71%	11.29%	0.00%	100.00%	(62)

[Student Q.4] Does your family separate the recyclables generated in your house?

_____ a. Yes, we do separate the recyclables and discharge them separately.

_____ b. No. we discharge everything all together.

_____ c. I don't know how the waste is treated at my house.

School	a	b	c	N/A	Total	(Number of Samples)
Ahmet Gashi	58%	38%	2%	0%	100%	(102)
28 Nentori	72%	24%	4%	0%	100%	(133)
Skender Luarasi	84%	10%	5%	2%	100%	(61)
Aleks Buda	72%	24%	4%	0%	100%	(95)

4. Many families even now are practicing recycling

The above is also confirmed by the fact that each household is already conducting separation of recyclables. On the other hand, as mentioned earlier, since it seems that there are many families who have a regular dealer to hand over the separated recyclables (the question did not ask if it is done for a fee or not), when changing from existing way, paying close attention to their feelings would be necessary to avoid the possibility of creating a rebound against the municipality-initiated recycling activities.

[Parent Q2] Did you participate in the activity (of the recyclable collection carried out in school)?

_____ a. Yes. Our family sent our recyclables to the school through our child/children.

_____ b. No. Our family has given the recyclables to collectors who come to our neighborhood (or home).

_____ c. No, we did not separate any recyclables last semester.

【Among those who answered that they knew about the school separate collection activity】

School	a	b	c	(N/A)	Total	(Number of Samples)
Ahmet Gashi	26.83%	60.98%	7.32%	4.88%	100.00%	(41)
28 Nentori	64.29%	25.00%	10.71%	0.00%	100.00%	(56)
Skeder Luarasi	38.98%	54.24%	5.08%	1.69%	100.00%	(59)

[Parents Q3] Is the school continuing the activity?

_____ a. Yes, and our family cooperate by giving recyclables to the school.

_____ b. Yes, but our family gives the recyclables to collectors.

_____ c. Yes, but we do not separate the recyclables.

_____ d. No, the activity has stopped.

School	a	b	c	d	(N/A)	Total	(Number of Samples)
Ahmet Gashi	30.23%	60.47%	6.98%	2.33%	0.00%	100.00%	(43)
28 Nentori	58.73%	20.63%	12.70%	7.94%	0.00%	100.00%	(63)
Skeder Luarasi	40.32%	53.23%	4.84%	1.61%	0.00%	100.00%	(62)

5. People want information about what recyclables are collected, how and when, as well as its impact.

While information on the types of recyclables that are the subject of separate collection is necessary, there were similar responses from people that wanted to know about the change and impact that separate collection would make on their lifestyle as well as the collection method.

[Parent Q.7] What kind of information would you like to have?

_____ a. Kinds of waste to be separated

_____ b How separated waste is collected

_____ c. When separated waste is collected

_____ d. What changes / impacts separate waste collection will make on our lifestyle

_____ e. Others:

【those who answered "I need more information before implementation of separate collection in Lapraka" in Q.6】

School	a	b	c	d	e	Total	(Number of Samples)
Ahmet Gashi	40.00%	20.00%	20.00%	20.00%	0.00%	100.00%	(5)
28 Nentori	46.15%	23.08%	0.00%	23.08%	7.69%	100.00%	(13)
Skeder Luarasi	42.86%	28.57%	14.29%	14.29%	0.00%	100.00%	(7)

【All answers to Q7】

School	a	b	c	d	e	Total	(Number of Samples)
Ahmet Gashi	53.13%	15.63%	15.63%	15.63%	0.00%	100.00%	(32)
28 Nentori	60.71%	5.36%	10.71%	21.43%	1.79%	100.00%	(56)
Skeder Luarasi	46.81%	14.89%	21.28%	17.02%	0.00%	100.00%	(47)

a Results of the Student Survey

Result of the Post-PP Questionnaire Survey

Students Survey

Q.1.

School	a	b	c	d	N/A	Total	(Number of Samples)
Ahmet Gashi	76.47%	10.78%	12.75%	0.00%	0.00%	100.00%	(102)
28 Nentori	83.46%	9.02%	0.75%	6.02%	0.75%	100.00%	(133)
Skender Luarasi	98.36%	1.64%	0.00%	0.00%	0.00%	100.00%	(61)
Aleks Buda	81.05%	7.37%	3.16%	8.42%	0.00%	100.00%	(95)

Q.2.

School	a	b	c	N/A	Total	(Number of Samples)
Ahmet Gashi	94.12%	0.00%	5.88%	0.00%	100.00%	(102)
28 Nentori	64.66%	0.75%	33.83%	0.75%	100.00%	(133)
Skender Luarasi	98.36%	0.00%	1.64%	0.00%	100.00%	(61)
Aleks Buda	89.47%	2.11%	8.42%	0.00%	100.00%	(95)

Q.3.

School	a	b	c	Total	(Number of Samples)
Ahmet Gashi	86.27%	13.73%	0.00%	100.00%	(102)
28 Nentori	83.46%	15.04%	1.50%	100.00%	(133)
Skender Luarasi	90.16%	3.28%	6.56%	100.00%	(61)
Aleks Buda	97.89%	1.05%	1.05%	100.00%	(95)

Q.4.

School	a	b	c	N/A	Total	(Number of Samples)
Ahmet Gashi	57.84%	38.24%	1.96%	0.00%	100.00%	(102)
28 Nentori	72.18%	24.06%	3.76%	0.00%	100.00%	(133)
Skender Luarasi	83.61%	9.84%	4.92%	1.64%	100.00%	(61)
Aleks Buda	71.58%	24.21%	4.21%	0.00%	100.00%	(95)

Q.5.

School	a	b	c	d	N/A	Total	(Number of Samples)*
Ahmet Gashi	74.58%	6.78%	16.95%	1.69%	0.00%	100.00%	(59)
28 Nentori	50.00%	12.50%	31.25%	4.17%	2.08%	100.00%	(96)
Skender Luarasi	7.84%	17.65%	64.71%	3.92%	5.88%	100.00%	(51)
Aleks Buda	51.47%	23.53%	23.53%	1.47%	100.00%	51.47%	(68)

*Those who answered (a) in Q.4.

Q.6.

School	a	b	c	d	e	f	g	h	(Number of Samples)
Ahmet Gashi	85.29%	39.22%	47.06%	82.35%	82.35%	44.12%	78.43%	29.41%	(102)
28 Nentori	78.20%	37.59%	34.59%	59.40%	49.62%	57.89%	21.05%	24.06%	(133)
Skender Luarasi	55.74%	49.18%	34.43%	85.25%	60.66%	67.21%	8.20%	11.48%	(61)
Aleks Buda	40.00%	63.16%	60.00%	33.68%	33.68%	50.53%	29.47%	14.74%	(95)

Q.7.

School	a	b	c	d	N/A	Total	(Number of Samples)
Ahmet Gashi	28.43%	14.71%	24.51%	29.41%	2.94%	100.00%	(102)
28 Nentori	18.80%	18.05%	24.81%	36.84%	1.50%	100.00%	(133)
Skender Luarasi	18.03%	49.18%	21.31%	8.20%	3.28%	100.00%	(61)
Aleks Buda	43.16%	14.74%	17.89%	23.16%	1.05%	100.00%	(95)

Q.8.

School	a	b	c	d	e	(Number of Samples)
Ahmet Gashi	2.94%	2.94%	3.92%	90.20%	5.88%	(102)
28 Nentori	8.27%	7.52%	6.77%	75.19%	15.04%	(133)
Skender Luarasi	6.56%	6.56%	3.28%	83.61%	6.56%	(61)
Aleks Buda	13.68%	18.95%	7.37%	60.00%	1.05%	(95)

Q.9.

School	a	b	c	d	e	f	g	h	(Number of Samples)
Ahmet Gashi	85.29%	26.47%	62.75%	65.69%	14.71%	0.00%	0.98%	0.00%	(102)
28 Nentori	76.69%	27.07%	54.14%	49.62%	19.55%	4.51%	10.53%	3.01%	(133)
Skender Luarasi	86.89%	26.23%	70.49%	21.31%	21.31%	4.92%	11.48%	3.28%	(61)
Aleks Buda	63.16%	14.74%	15.79%	12.63%	15.79%	3.16%	1.05%	6.32%	(95)

Q.10.

School	a	b	c	N/A	Total	(Number of Samples)
Ahmet Gashi	88.24%	11.76%	0.00%	0.00%	100.00%	(102)
28 Nentori	86.47%	11.28%	1.50%	0.75%	100.00%	(133)
Skender Luarasi	91.80%	8.20%	0.00%	0.00%	100.00%	(61)
Aleks Buda	91.58%	4.21%	2.11%	2.11%	100.00%	(95)

Q.11.

School	a	b	c	d	e	(Number of Samples)
Ahmet Gashi	49.02%	58.82%	21.57%	33.33%	5.88%	(102)
28 Nentori	46.15%	54.62%	20.00%	18.46%	8.46%	(130)
Skeder Luarasi	18.03%	90.16%	11.48%	11.48%	1.64%	(61)
Aleks Buda	56.04%	41.76%	16.48%	5.49%	0.00%	(91)

Q.12.

School	a	b	c	(N/A)	Total	(Number of Samples)
Ahmet Gashi	67.65%	24.51%	6.86%	0.98%	100.00%	(102)
28 Nentori	63.16%	27.82%	7.52%	1.50%	100.00%	(133)
Skeder Luarasi	90.16%	1.64%	8.20%	0.00%	100.00%	(61)
Aleks Buda	34.74%	31.58%	17.89%	15.79%	100.00%	(95)

b Results of the parent survey

Result of the Post-PP Questionnaire Survey

Parents survey

Q.1.

School	a	b	Total	(Number of Samples)
Ahmet Gashi	95.35%	4.65%	100.00%	(43)
28 Nentori	86.15%	13.85%	100.00%	(65)
Skeder Luarasi	95.16%	4.84%	100.00%	(62)

Q.2.

School	a	b	c	(N/A)	Total	(Number of Samples)
Ahmet Gashi	26.83%	60.98%	7.32%	4.88%	100.00%	(41)
28 Nentori	64.29%	25.00%	10.71%	0.00%	100.00%	(56)
Skeder Luarasi	38.98%	54.24%	5.08%	1.69%	100.00%	(59)

Q.3.

School	a	b	c	d	Total	(Number of Samples)
Ahmet Gashi	30.23%	60.47%	6.98%	2.33%	100.00%	(43)
28 Nentori	58.73%	20.63%	12.70%	7.94%	100.00%	(63)
Skeder Luarasi	40.32%	53.23%	4.84%	1.61%	100.00%	(62)

Q.4.

School	a	b	N/A	Total	(Number of Samples)
Ahmet Gashi	100.00%	0.00%	0.00%	100.00%	(40)
28 Nentori	94.55%	3.64%	1.82%	100.00%	(55)
Skeder Luarasi	100.00%	0.00%	0.00%	100.00%	(59)

Q.5.

School	a	b	c	Total	(Number of Samples)
Ahmet Gashi	100.00%	0.00%	0.00%	100.00%	(3)
28 Nentori	87.50%	0.00%	12.50%	100.00%	(8)
Skeder Luarasi	100.00%	0.00%	0.00%	100.00%	(3)

Q.6.

School	a	b	c	Total	(Number of Samples)
Ahmet Gashi	88.37%	11.63%	0.00%	100.00%	(43)
28 Nentori	76.92%	20.00%	3.08%	100.00%	(65)
Skeder Luarasi	88.71%	11.29%	0.00%	100.00%	(62)

Q.7.

【Out of those who answered (b) in Q6.】

School	a	b	c	d	e	Total	(Number of Samples)
Ahmet Gashi	40.00%	20.00%	20.00%	20.00%	100.00%	40.00%	(5)
28 Nentori	46.15%	23.08%	0.00%	23.08%	7.69%	100.00%	(13)
Skeder Luarasi	42.86%	28.57%	14.29%	14.29%	0.00%	100.00%	(7)

【For reference: all answers.】

School	a	b	c	d	e	Total	(Number of Samples)
Ahmet Gashi	53.13%	15.63%	15.63%	15.63%	0.00%	100.00%	(32)
28 Nentori	60.71%	5.36%	10.71%	21.43%	1.79%	100.00%	(56)
Skeder Luarasi	46.81%	14.89%	21.28%	17.02%	0.00%	100.00%	(47)

Q.8. Can you tell us why you do not like?

because I don't want our neighborhood to have trash
we don't want the bins to be collected in the school because it can cause health problems from microbes

C. Findings from PP

C.1 In order to make activity educational and eventful:

- Talk about the cause, not just rules (Why do we recycle?);
- Let the students think of their own ways of activities because each school has its own problems and characteristics and students are very creative;

C.2 In order to continue the activity of school recycling for a long period of time:

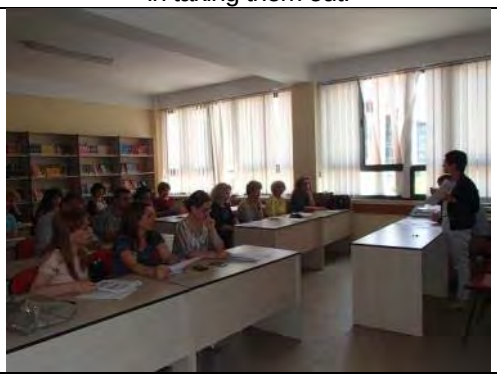
- Organize neighboring schools in one group so the transportation can be arranged easily and with less cost for each school;
- Connect the (group of) schools with nearby collectors / recyclers;
- Provide daily support initially and monitoring for follow-up;

C.3 In order to continue the activity, separation activity should start:

- With the materials that have a market in the near-by area;
- With a route of collection set in advance;

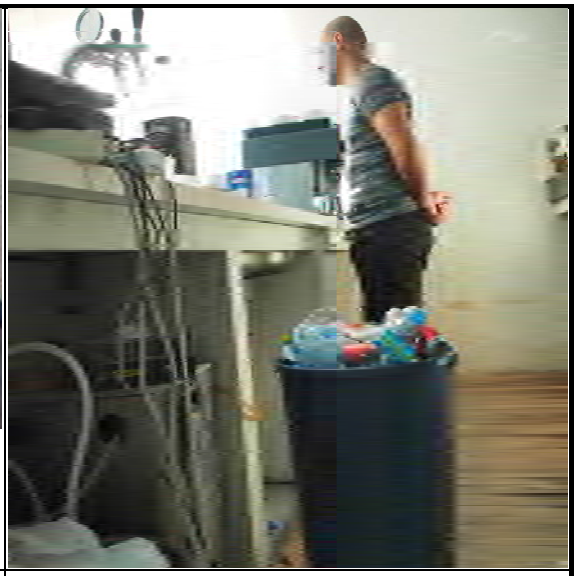
D. Photos from Tirana PP

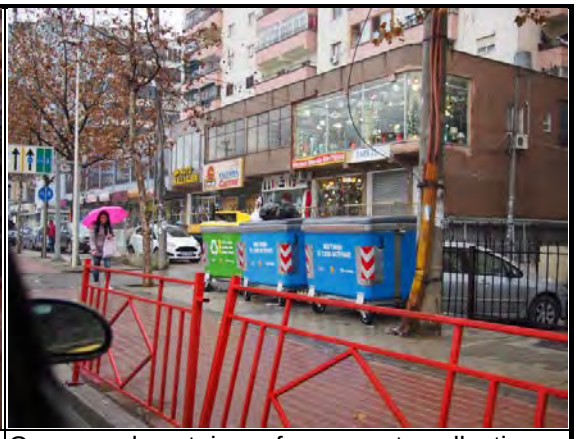
D.1 Phase 1

<table>
<tr><td>  </td><td> 
</td></tr>
<tr><td>Ordering a frame for a collection sack.</td><td>Poster on separation rule (in A3-size)</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>First time selling the recyclables by 28 Nentori.</td><td>First time selling the recyclables by Aleks Buda High School</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Skender Luarasi had a large quantity and difficulty in taking them out.</td><td>The new cooperating recycler brings his truck to school for collection.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Lapraka 5-school meeting</td><td>Community awareness by Aleks Buda students.</td></tr>
</table>

D.2 Phase 2

	
On a day of collection of recyclables brought from home.	In the begining of Phase 2 in 28 Nentori school, the amount of recyclables brought in from home was too large to keep in one collection sack, and the second sack was provided to the school.
	
At Ahmet Gashi School, on a Friday morning the students bring in the recyclables separtely collected at their homes. They are first discharged in one spot.	The school cleaning staffs places the recyclables into the collection sack while checking if unsuitable wastes are brought in. Ahmet Gashi school promoted this process to be done by the students themselves.

	
The recyclalbles collected in a day from households to Ahmet Gashi school. They would fill about 80 % of the sack.	Seprately discharged recyclables at a cafe that cooperated with the separate collection by the students of Aleks Buda school. The recyclables discharged were greater than the capacity of one bin.
	
Skender Luarasi school focused more on awareness activities because they had very limited amount of recyclables discharged. There was a presentation of the awareness posters for 3R promotion that the students created.	The students of the environmental group at Skender Luarasi school were awarded with a certificate issued by the Ministry of Environment and the Project, in order to encourage their continuation of activities.

	
The students of the environmental group at Gjergi Fishta school check their recycling bins. The students wearing rubber gloves sorted out the unsuitable waste.	Communal containers for separate collection placed by Tirana municipality in November 2016 just outside of the Lapraka area. Officially, the implmenetaion of the municipal separate collection does not cover Lapraka area yet.