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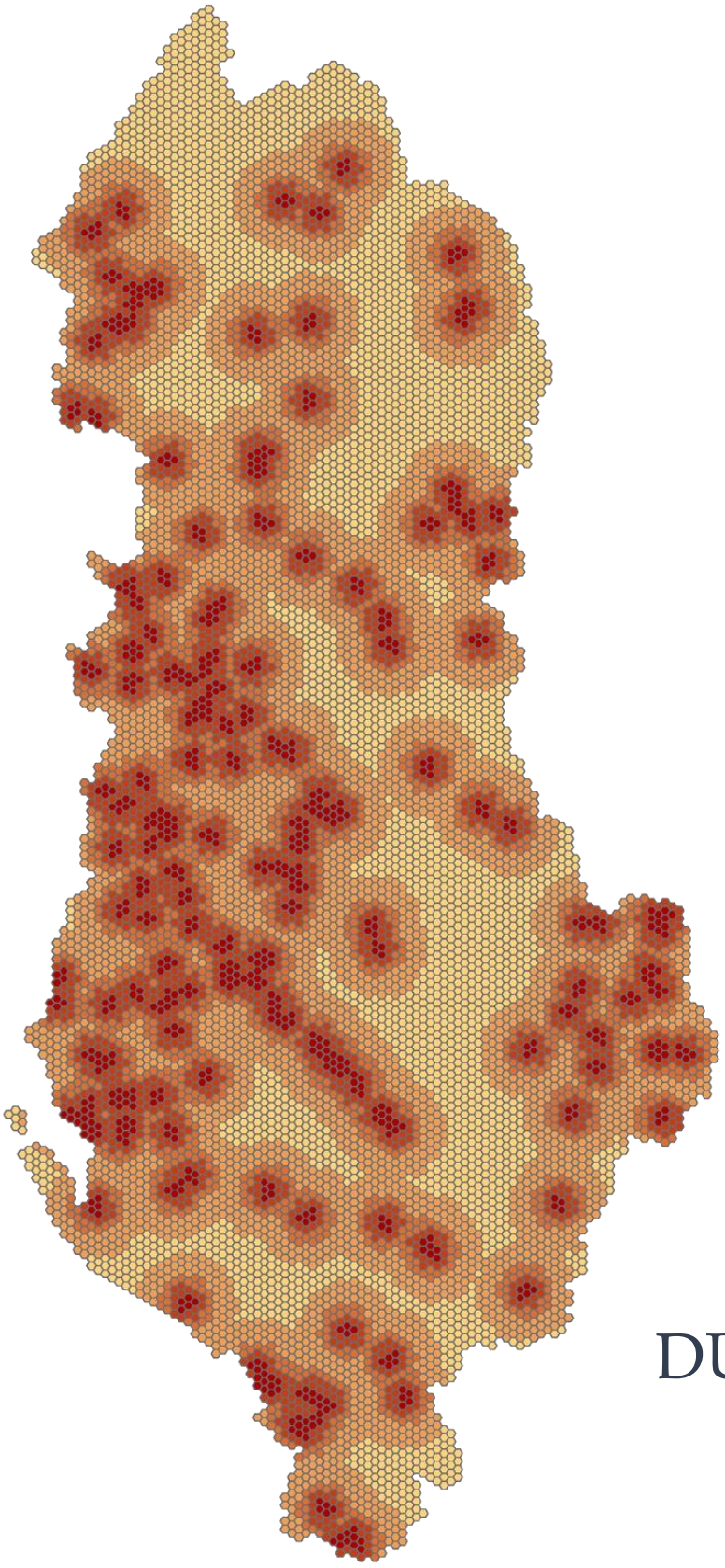

DUMPSITE RISK MITIGATION

FINAL REPORT

TIRANA, 2018

Tittle: Dumpsite Risk Mitigation / Final Report

June 2018

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dldp decentralisation and local development programme
HELVETAS Swiss Intercooperation ALBANIA
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Agency for Development and Cooperation SDC
UTS-01

Acknowledgements

The Initiative "For dumpsite risk mitigation" start as a necessity to acknowledge in depth the existing conditions of the dumpsites at national level and address a set of adequate measures to minimize the risks that such infrastructure facilities actually exhibit. Leaded by Ministry of Tourism ad Environment this Initiative involved the staff of Prefectures and Municipalities of Albania.

Started at the beginning of February and finalized within a record time of 3-months, this process required field work from more than 250 local experts who continuously enriched the data platform with the necessary technical information. It is worth mentioning that coordination and close collaboration between institutions at local and central level was an added value of this process. Support from Decentralization and Local Development Programme (dldp), covered methodological aspects, capacity building and facilitation of organizational processes. The study builds upon successfully implemented practices (such as Dibra case) in the North of Albania. Swiss company CSD Engineers, involved through dldp before starting this exercise, prepared the Methodology "For dumpsite risk mitigation", bringing international experience to the document that technically led this initiative.

Implementation of this Methodology shall be enabled through the amendments of the DCM no. 452, of July 11, 2012 "On waste landfills", supported by GIZ Albania. Through this Initiative, Municipalities will be enabled to achieve certain standards on waste dumpsites along a transitory period until the full establishment of other infrastructural facilities foreseen in the Masterplan.

Validation of the gathered data, of the technical analyses and of the obtained results, from almost all the public and private actors actually involved in the integrated waste management sector, raises considerably the sustainability of the achieved results. Last but not least, harmonization of results with the national strategic instruments, that are being drafted, and also the positive review from academia to this process, the methodology and the results of this platform, provide a strong basis for entering in the next phase of implementation of initiative "For dumpsite risk mitigation".

Last but not the least, I would like to express the highest gratitude for all the experts involved in this process, especially the local ones, engaged by the Prefectures and Municipalities, which with their persistent work constantly improved this platform.

Dr. Ornela ÇUÇI

Deputy Minister

Ministry of Tourism and Environment

ABBREVIATIONS

NANR	National Agency of Natural Resources
NAE	National Agency of Environment
NTPA	National Territory Planning Agency
NAPA	National Agency of Protected Areas
ASIG	State Authority for Geospatial Data
TDA	Territory Development Agency
EU	European Union
DLDP	Decentralizing and Local Development Programme
FCE	Faculty of Civil Engineering
ADF	Albanian Development Fund
IGEWE	Institute of Geosciences, Energy, Water and Environment
IMC	Institute of Monuments and Culture
INSTAT	Institute of Statistics
IPA	Instrument of Pre-Accession
IPA-CBC	IPA Cross Border Cooperation
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
NTC	National Territory Council
TRC	Territory Regulation Council (of Municipality or Region)
TRCAR	Territory Regulation Council of Albanian Republic
KRWM	Korça Regional Waste Management
MIE	Ministry of Infrastructure and Energy
MTE	Ministry of Tourism and Environment
MUD	former Ministry of Urban Development, closed in 2015
AU	Administrative Unit
LGU	Local Governing Unit
GLP	General Local Plan
TAR	Territory Administrative Reform (Approved 2014)
AGS	Albanian Geological Service
PUT	Polytechnic University of Tirana
MCD	Municipality's Council Decision
DCM	Decision of Ministers Council
DS	Dumpsites
PA	Protected Area
WTP	Waste Treatment Plant

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1. Preface

The Report "Dumpsite Risk Mitigation" is the final product of the Initiative having the same name, initiated by MTE at the beginning of February 2018. The document presents an informative platform, where in a summarized form are given technical and organizational aspects of a process leaded by the Ministry of Tourism and the Environment in close cooperation with the Prefectures and Municipalities.

Despite involvement of many actors in this Initiative, the real authors of this Report are over 250 local experts (nearby the municipalities and prefectures) which, during several months of engagement, made possible scanning, evaluating and giving recommendations for all the dumpsites throughout the territory of our country.

The process, besides its technical exercising regarding the assessment of dumpsites, was accompanied by important organizational elements and close cooperation between central and local government, facts which positively influenced the quality and sustainability of the achieved results.

In order to highlight all aspects included in this engagement, the structure of the Report generally follows, the progress of the process from the start, the setup of the Working Groups, until its final stage. In the following is given a description of the Report chapters.

Chapter 2 gives a description of the Methodology that led the whole process. Developed by CSD Engineers experts, with the support of dldp, this document in addition to international experience, takes into account the context and local features of these infrastructures in our country. In addition to some theoretical and practical aspects of the Methodology, the Report also presents the main issues encountered by local working groups during the collection and analyses of the required data.

Chapter 3 presents organizational aspects of the process. It deals with the setup and organization of the work at central and local level. The structure and expertise required from the working groups and the roles they had in the organizational hierarchy of the process.

Chapter 4 describes the validating process of the information gathered by the working groups at the local level. For a more efficient use of time, this process started in parallel with the information collection, so that step by step, municipality data were corrected and at the same time distributed to other groups having less capacities.

Chapter 5, albeit very brief, presents in a concise form the legal initiative taken by MTE with the support of GIZ Albania, to amend the DCM no. 452, date 11.07.2012 "For waste landfills", which will enable implementation of these interventions.

Chapter 6 summarizes the final results of the Initiative "Dumpsite Risk Mitigation" which are based on all the data gathered by local groups and the process of validation by all actors

involved. In addition, several scenarios for the dumpsites intervention are provided, based on the priorities of the Ministry of Tourism and the Environment.

Chapter 7 provides a general description of the waste management system for each Region. The information presented is a synthesis of all data collected by the local working groups including also comments, corrections and costs assessments for the environmental mitigation measures by the consulting company engaged in the validation process.

The Annexes at the end of the Report provide additional information, mainly related to the in-situ work process, training and validation of dumpsites data.

2. Methodology for Dumpsite Risk Mitigation

The Methodology for the Dumpsite Risk Mitigation has as its main objective the identification of dumpsites throughout the country and based on legal and technical evaluations, to guide the decision-making entities at central and local level in selecting those cases that have lower risk for the population and the environment. Also, part of this methodology is a catalog of concrete measures aimed at maximizing technical conditions of use and operation of dumpsites.

In order to achieve uniformity throughout all the evaluation process of the working groups at local level were elaborated standard Forms/Reports and handled to them to be completed.

The Methodology and all standard Forms/Reports package was elaborated from CSD Engineers.

2.1. Description of Methodology

Within the framework of this Initiative, the term dumpsite refers to the legal and illegal ones that for a given period of time have served as a waste disposal site for a particular community (suburban neighborhood, village or city).

Based on the proposed Methodology the process is divided into 5 main components:

1. Identification,
2. Evaluation (ranking);
3. Prioritization of dumpsites;
4. Decision-making for the type of intervention (which dumpsites will be rehabilitated/ closed/ relocated);
5. Measure plan for risk mitigation and their economic assessment for every dumpsite

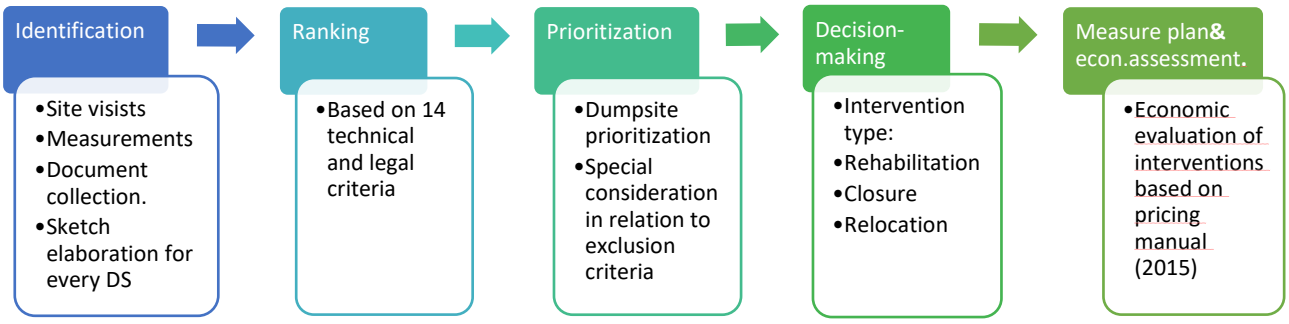


Fig. 2.1 Evaluation phases of dumpsites according to Methodology for risk mitigation

Also, the Methodology provides some measures for the operation and monitoring of dumpsites which, after the intervention, directly affect the longevity of investment and control of environmental risks.

In addition, for each of the above stages are provided technical concepts and data summary to clarify the methodological aspects used in the process.

Also, for each stage are highlighted the problems encountered, which in most cases were solved in direct communication with the local level working groups or with the help of the consulting company (UTS-01) that assisted the Ministry in this process.

2.1.1. Identification of dumpsites

This is the preparatory stage of the work, where local level experts identify every dumpsite in the municipality/district territory through:

- Site Visits
- Collecting technical or legal documentation related to the approval of waste gathering infrastructure

Encountered issues

a. Lack of technical documentation

Often it is found that the approval of the dumpsite has not gone through any technical assessment process but just an administrative one. Municipalities facing emergency needs for waste management/depositing have approved by Municipalities Council decision, mostly public properties parcels, that served for years as dumpsites for municipal waste. Consequently, municipalities do not administer any technical documentation (geological studies, technical projects, construction or environmental permits) regarding dumpsites located in their territory. The lack of technical documentation directly influenced the work of local experts who had no basis for evaluating landfills and everything had to be based on on-site visits.

It is important mentioning that even in cases when dumpsites are approved by technical commissions in local or central level (TRC or TRCAR/ NTC), municipalities do not have proper technical evaluation as to how a certain location is defined, in order to be used as a dumpsite. It is ascertained that in general there have been some basic criteria which have directed the decision-making.

i. The parcel should be public property (to avoid expropriation costs)
ii. The area should be as close to the main urban center as possible (to avoid waste transportation costs)
iii. Geological criteria in relation to the area permeability.

b. Dumpsite inclusion criteria

Mainly during the trainings of the local groups, there have been many technical discussions about the size of dumpsites that need to be included in this platform. MTE and dldp experts have suggested that should be considered only those dumpsites which have served a community for a certain time (peripheral neighborhood, village or city). This is done to avoid random fly tips reused by different violators.

In the platform are also included abandoned dumpsites, that are not used any more for waste depositing by municipalities and are left with no intervention for closure/encapsulation or displacement of waste.

From an initial evaluation, in the first phase of information gathering (end of February 2018) was found that work groups at local level, referred about 60 – 70 dumpsites that should not be considered. This was noticed mainly in cases when from working groups on prefecture level, were absent municipality representatives that had the major information for the distribution of dumpsites in their administrative territory.

Fig. 2.2 Guiding images of dumpsites that should be considered

c. From the working groups at local level was not requested detailed information about:

- Sanitary dumpsites (existing: Bushat, Sharrë, Maliq and Bajkaj)
- waste Treatment Plants (existing: IWT Elbasan) ITM
- dumpsites rehabilitated again (existing: Pukë and Peshkopi)
- or projects for waste treatment infrastructures (planed: IWT Fier, landfill Vlorë, etc.).

We conclude that, despite the need for rehabilitation through maintenance/intervention these legal waste treatment infrastructures may have, they are not subject of this Risk Mitigation on Dumpsites focus.

d. Weather Conditions

Taking into consideration that the first phase of site visits was in February 2018, in some cases, mainly in mountain areas, weather conditions influenced in the deadlines of the

assessment and in the technical quality of the information they referred to. Snow precipitation significantly reduced the scope of on-site visits as this made it impossible to evaluate, measure and identify the major issues.

In some cases, local road blocking makes it impossible to access dumpsites. Civil emergencies related to flooding also affected the deadlines for submitting technical reports. This in some cases led the expert group to return to a second visit for field evaluations.

2.1.2. Ranking of dumpsites

Ranking of dumpsites is done based on unified form (see Appendix 1) delivered to working groups, for this purpose. Ranking is made based on 14 technical and legal criteria that are divided in 4 main groups/risks:

Table 2-1 Main risks evaluated for each dumpsite

Risk related to:	No. criteria	RESULT	
		Min.	Max.
Water protection	6 criteria	0	30
Population protection and disturbance	3 criteria	0	15
Environmental protection and touristic attraction	4 criteria	0	8
Operation criteria	1 criteria	0	5
	Total	**0**	**58**

Clarification regarding filling out the form:

The maximum and minimum number of points (58 points - 0 points) is the same for each dumpsite evaluated across the country.

In cases where the dumpsite does not show a certain risk because of the geographical position, then the maximum evaluation is assigned. For example, all the dumpsites of Kukës region are rated with 5 points (maximum points) for criteria 2 - *distance from the sea*.

Encountered issues

a. Geological evaluation of the area where the dumpsite is located

In some cases, the lack of technical documentation for dumpsites and in some cases the lack of geologic experts in the working groups, made the geological assessment of the area (regarding the permeability and stability towards sliding) to be technically unreliable and approximated.

b. Proximity of dumpsites from residential areas

The assessment regarding the proximity of dumpsites from residential areas in some cases has been subjective. It is noted that in some cases are taken into consideration isolated buildings, which cannot be determinative for these criteria.

During the trainings was suggested to be taken as a basis for assessing these criteria:

- borderlines for residential areas (green lines for municipalities that have GLP approved);
- borderlines for urban areas as per NTC decision no. 5 on. 29.12.2014 "For the identification of urbanized areas in the territory of the Republic of Albania and the approval of maps where it can be intervened for urban development purposes"

c. Deterioration of the landscape

The assessment of working groups regarding the impact of dumpsites on landscape degradation, remains subjective. The focus of this criteria has been the evidencing of the negative impact of dumpsites on the image of touristic value areas. Because of the lack of necessary expertise, only in some cases (when in working groups were involved tourism/ geography expert) it turns out that this criterion is correctly filled for dumpsites located near the coastal area.

d. Protected areas through DCM

One of the criteria for evaluation was also the distance of dumpsites from protected areas with DCMs (or areas of national interest). Often the boundaries of these areas, which determine the distance to be respected, require a confrontation of field evaluations with mapping material accompanying the legal acts under which they have received special status. Despite the information contained in the National Agency for Geospatial Data (ASIG), in many cases this criterion has been fulfilled in subjective form.

Only for the protected environmental zones there is a map published on the official website and ASIG.

For natural landmarks/monuments, cultural heritage and areas with archeological value, information on digital platforms is partial and as such difficult to be accurately considered.

e. Operation Criteria

The criteria of operation aimed at identifying the level of utilization of the dumpsite, as the ability to continue the waste storage in the next 3-5 years, constitutes an important criterion for the Initiative in general. It is clear that a dumpsite used beyond the capacity for which it has been designed or approved must necessarily be subject to closure.

Most dumpsites are simply public parcels made available by the municipality for waste storage, which lack minimal operating conditions such as fencing, compression of residues, etc. Under such conditions, assessment on the utilization level or lifetime for which a dumpsite can be used in the future, remains subjective.

2.1.3. Prioritization of dumpsites at region/municipality level[1]

Prioritization of dumpsites is made based on a unified format of the Prioritization Report, delivered to all working groups. The structure of this report is filled with the necessary information gathered in the first phase and is divided into two main parts:

Part 1. General Evaluation of dumpsites at county/municipality level

This section of the Report gives the prioritization (ranking) of dumpsites at county/municipality level. The general description given at the county level is finalized with the following table where summarized information is provided for each dumpsite.

Table 2-2 Information gathered for dumpsites at county/municipality level

Rank	Name/Code of Dumpsite	Total score	Transport distance till the other region/municipality Dumpsites	Dumpsite is located in a high priority area for tourism development (or defined with DCM).	Recommendation for the dumpsite
1					Rehabilitation / closure / waste removal
2					
3					
…	…	…	…	…	…

In this table, initially for each dumpsite are given the total points (Total Result column), to further continue with their distance from each other where is required to be clarified if there is any direct impact on the areas which have tourism development priority (or other areas of national importance defined by the DCM)

As seen, in the final column is also defined the intervention proposed for the working groups for every dumpsite. So here is defined if:

- The dumpsite will be rehabilitated (aiming to utilize it for a mid-term period, 3 – 5 years)
- Dumpsite will be closed/encapsulated (according to the measures specified in the Risk Mitigation Methodology)
- The dumpsite is removed, the remains are relocated to the nearest rehabilitated dumpsite or at the nearest sanitary landfill

Since this recommendation is not only about technical decision-making, all aspects related to this process are provided in the following paragraph

[1] It should be considered that the prefecture-level Working Groups have initially drafted County-level Reports. During the data validation process, Reports were drafted at the municipal level, so they would be the final confirmation party in this process.

Part 2 Summarized assessment for each dumpsite according to the following format

The second section of the Categorization Report provides summarized information for each dumpsite. This information is summarized according to the structure of the following form and is drafted separately for each dumpsite.

Table 2-3 Detailed information for every dumpsite

Final score for Dumpsite	[Insert Dumpsite name/code],
located at the coordinates	[Insert coordinates/code]
in the Municipality	[*Insert name of municipality*]
County	[*Insert county name*]

Related risk:	**Score**
Water protection	0 ÷ 30
Population protection and disturbance	0 ÷ 15
Environmental protection and tourism attraction	0 ÷ 8
Operation criteria	0 ÷ 5
TOTAL RESULT	**0 ÷ 58**

Comments about the score of the dumpsite. (Dumpsite situation / Main environmental risks / Main risks on population)

[*Fill in*]

Is there any close dumpsite? Is there any touristic place visible from the dumpsite? Or any DCM defined area??

[*Fill in*]

Map / Picture / Sketches of the dumpsite

[*Fill in*

In addition to the score needed to be filled in the Ranking Form, for each dumpsite, it is required that the following sections be filled, with technical comments and features that reflect the final given recommendations.

As stated, this form gives the opportunity also to clarify the decision-making for a dumpsite (rehabilitation, closure or waste displacement) since despite the score it has received in relation to others, here are evidenced the technical specifications and general aspects of waste management in a region or municipality, that have led the working group on the given Recommendation.

Correctly filling of the Prioritization Report has in many cases been dependent on the expertise involved in the local level working groups and on the technical materials available to these experts. Below are some of the key issues identified.

a. Filling geographical coordinates

Working groups in some cases referred different geographic systems and projections, thus dumpsite georeferencing initially had a lot of problems. Also, in some cases, the working groups referred to a single dumpsite, while others referred to the perimeter edge vertices.

b) sketches completion/ layout plan of dumpsites.

In most cases instead of sketches processed by working group engineers, were handled also scans of property certificates, orthophoto or google map views. This often caused the data did not serve to the scope required in order to calculate the surface area or volumes of dumpsites. Below are some cases of graphic materials handled by local working groups.

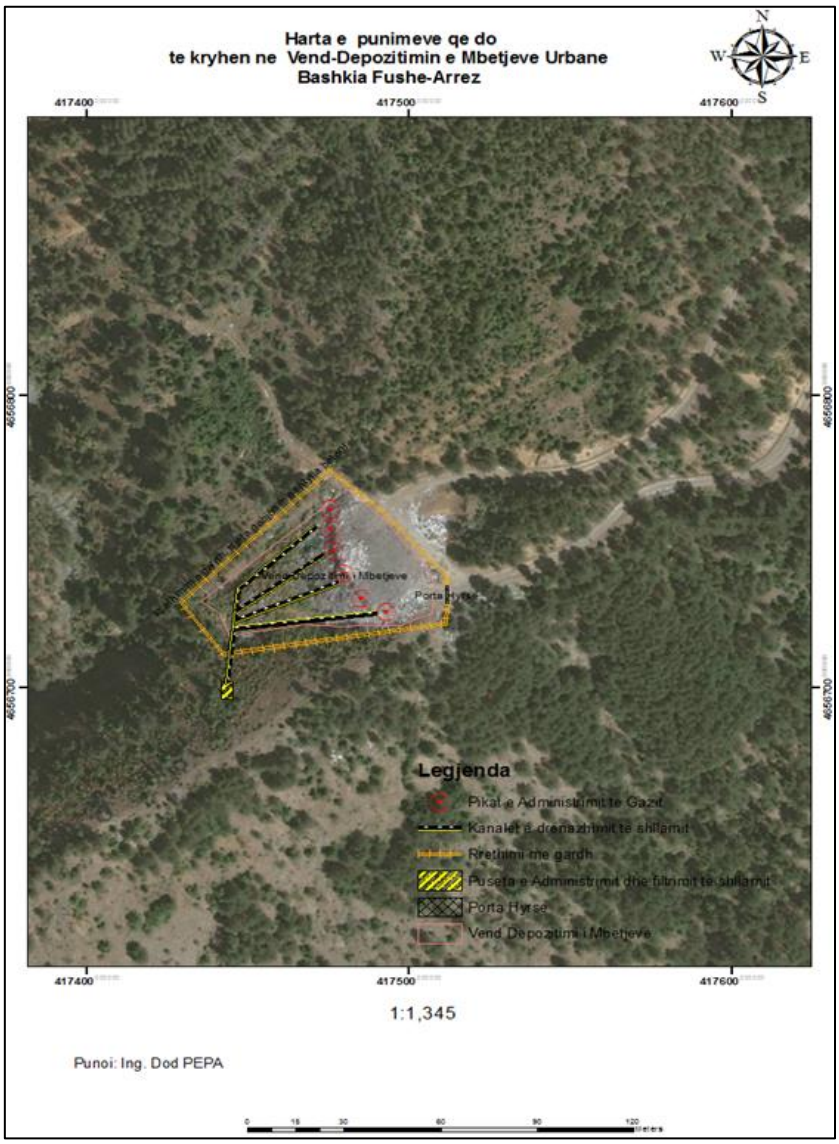
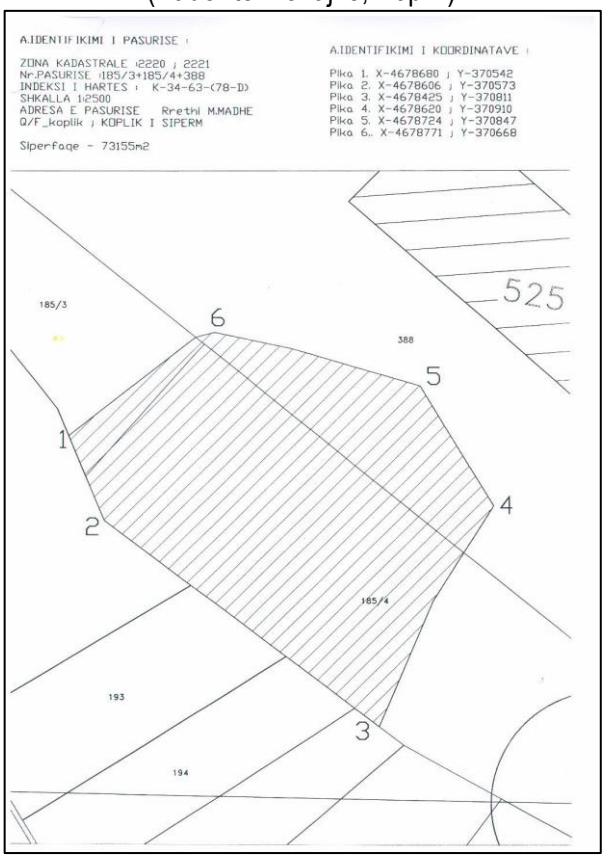


Fig. 2.3 Graphic Material handled by the Working Group of Fushë Arrës Municipality.

Dumpsite no.1
(Bader të Mehajve, Koplik)



Dumpsite Porto Romano,
Durrës

Fig. 2.4 Material handled by Working Group of M. Madhe and Durrës Municipality

c) Error or irregularities from the initial assessment.

Lack of documentation and inadequate technical expertise caused in some cases wrong Ranking and such issue was carried out as well at the completion phase of the Prioritization Report with an incorrect description/assessment of the existing state of dumpsites.

2.1.4. Decision-making for interventions at dumpsites

Regarding decision-making on dumpsite intervention, this Methodology relies mostly on technical assessments made by the group of experts at local level, based on several key criteria:

- The dumpsite that is going to be rehabilitated does not violate the legal criteria (mainly for protected areas of tourism priority and hydrologic network)
- Each municipality can only rehabilitate one dumpsite while others will be closed or relocated.
- It is not permitted to rehabilitate dumpsites that are closer than 40 km to sanitary waste treatment infrastructure. This criteria applies for inter-regional area that is located 40km around this sanitary waste treatment infrastructure.
- Waste removal is not advisable considering new environmental problems arising from their disturbance and transportation. It is suggested that they be deposited in the nearest sanitary dumpsite or in cases where there is no one near, to be sent to the nearest rehabilitated one.

Below is provided a hypothetical case presented in the Methodology, which shows the decision-making process related to the dumpsite.

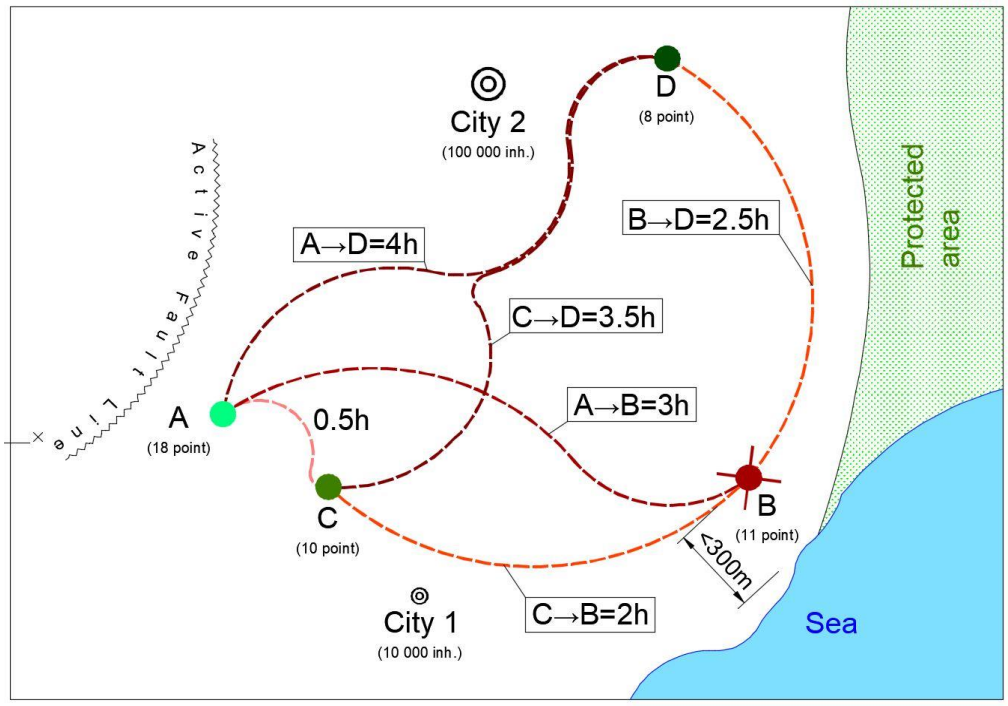


Fig. 2.5 Hypothetic case for interventions at dumpsites

According to this scenario it turns out:

1. Dumpsite B (11 points), it should be closed/ displaced as it is closer than 300m from seaside, without considering how much it has scored from the Scoring Form.
2. Dumpsite C (10 points), it should be closed because closer to dumpsite A (18 points). Dumpsite C closes, regardless of the proximity with City 1 (with 10 000 inhabitants)

in comparison to A. Fort these distances, prevails that A has scored higher than C, so A is less dangerous for the population and environment.
3. The municipality decides if it should be rehabilitated dumpsite A (18 points) or D (8 points), that is very near the city with 100 000 inhabitants.
4. Taking into consideration the fact that the Municipality should rehabilitate only one dumpsite, this Methodology proposes closing dumpsite D as it has a lower scoring (is more dangerous for the environment and the population).

The hypothetical scenario considered is intended to clarify the priorities that should influence the decision-making of the municipalities. The following are presented in a summarized form:

1. The position of the dumpsite should not violate legal criteria. In cases when it does so, it should be closed or relocated, it cannot be rehabilitated.
2. The distance between two or more dumpsites influences the decision-making, rehabilitating the one that has scored higher (thus, the less dangerous for the population and the environment). This distance is important for the evaluation of the potential of removal of dumpsites. Also, the distance between the main city and the dumpsite is also important for the decision of priority of closure/rehabilitation.
3. Every municipality can rehabilitate a maximum of one dumpsite that has the highest score ("the less dangerous")

Problems encountered

a. Rehabilitation of more than one dumpsite for the municipality

Working groups in some municipalities required rehabilitation of more than one dumpsite. The Municipality of Bulqiza, Dibër County is a typical case that is worth considering because the expertise of the Working Group has been quite high and at the same time with maximum cooperation in the process. From the municipality, in this case is required the rehabilitation of 3 deposit sites, as they are treated as a single municipal dumpsite infrastructure. Considering the existing road network these 3 deposit sites have been approved by the same decision of the Municipality Council

b. Rehabilitation of dumpsites near rivers or areas of national importance (DCM)

There are some cases where municipalities, having no other solution, request the rehabilitation of dumpsites near the rivers, within the protected environmental zones or within the tourism priority coastal zone. All these cases will be subject of technical discussion with the Ministry of Tourism and the Environment.

2.1.5. Measure plans and intervention costs

Recommendation Report of dumpsite Improvement, elaborated at county or municipality level, is the final document of this Initiative.

Technical recommendations or more specifically the measures to be taken for the dumpsites, are summarized in the uniform format of the Recommendations Report distributed to all the working groups at local level. The structure of this report, is completed from data collected in the first phase and the conclusions of Prioritization Report, which content is:

- Scope and limitations of this report
- Existing condition
- Identified main risk and dumpsite status
- Proposed measures
  - Specific measures
  - Water management measures
  - Stabilization and protections measures
  - Biogas management measures
  - Closure measures
- Recommendation on how to operate a dumpsite
- Summary and conclusions
- Planning (Sketches, BoQ)

As noticed on the report structure, besides intervention measures, there should be foreseen some extra recommendations for further operation of the dumpsite, by fulfilling the functional minimal requirements described on the relevant chapter of the Methodology. These minimal operation requirements/standards guarantee durability of the taken measures (lifetime of the investment) and affect the safety enhancement on these facilities.

Attached to this Report should be the elaborated draft-projects (sketches) for each dumpsite and their respective BoQ which were based on the officially approved prices manual. It is recommended that for each of the foreseen measures to be shown photos from the site, where is clearly shown the present risk on a dumpsite.

The catalogue of intervention measures that were described above in groups (see Report structure) is given in details in the following table:

Table 2-4 Catalogue of intervention measures

1. SPECIFIC MEASURES
1.1 Waste removal
1.2 Waste displacement
1.3 Construction of a fence
1.4 Forest and vegetation cut, as a safety measure against fire
2. WATER MANAGEMENT MEASURES
2.1 Water collection with peripheral drainage
2.2 Draining and leachate collection
2.3 Water runoff management
2.4 Collection and leachate re-circulation
2.5 Filtering/elaboration of leachates
3. STABILIZATION AND PROTECTION MEASURES
3.1 Construction of dikes for waste stability
3.2 Construction of dumpsite protection/stabilization barriers
4. GAS MANAGEMENT
4.1 Implementation of gas evacuation system
5. CLOSURE MEASURES
5.1 Implementation of final cover and closure of the site

It should have taken into account that interventions on the dumpsites (rehabilitation, closure or displacement) are concrete measures of a mixing of them from the above catalogue. On the Methodology report, each of the measures has its own "passport" where are described:

- Goals - for which are to be taken concrete measures;
- Risks - that are mitigated/reduced from a concrete measure;
- Description - where are given technical clarifications for implementation of an intervention measure;
- Sketches/Figures - that clarify schematically/graphically the type of a concrete implemented measure

Definitions:

- **Rehabilitation**: Intervention to extend the lifetime of a dumpsite ensuring at the same time the environmental risk mitigation.
- **Closure**: Covering of the waste with 2 layers (gravel and clay) and installation of a system to make possible the gas release.
- **Removal**: Removal of residual waste on the nearest landfill or a dumpsite that will be rehabilitated.

To specify the above stated, the following measures are provided for each intervention

Table 2-5 Specification of each intervention measure

Rehabilitation	Closure	Displacement
1. SPECIFIC MEASURES	1. SPECIFIC MEASURES	**1. MASAT SPECIFIKE**
1.1 Waste removal	1.1 Waste removal	**1. SPECIFIC MEASURES**
1.2 Waste displacement	1.2 Waste displacement	1.1 Waste removal
1.3 Construction of a fence	1.3 Construction of a fence	1.2 Waste displacement
1.4 Forest and vegetation cut, as a safety measure against fire	1.4 Forest and vegetation cut, as a safety measure against fire	1.3 Construction of a fence
2. WATER MANAGEMENT MEASURES	**2. WATER MANAGEMENT MEASURES**	1.4 Forest and vegetation cut, as a safety measure against fire
2.1 Water collection with peripheral drainage	2.1 Water collection with peripheral drainage	**2. WATER MANAGEMENT MEASURES**
2.2 Draining and leachate	2.2 Draining and leachate	2.1 Water collection with
2.3 Water runoff management	2.3 Water runoff management	2.2 Draining and leachate
2.4 Collection and leachate re-circulation	2.4 Collection and leachate re-circulation	2.3 Water runoff management
2.5 Filtering/elaboration of leachates	2.5 Filtering/elaboration of leachates	2.4 Collection and leachate re-circulation
3. STABILIZATION AND PROTECTION MEASURES	**3. STABILIZATION AND PROTECTION MEASURES**	2.5 Filtering/elaboration of leachates
3.1 Construction of dikes for waste stability	3.1 Construction of dikes for waste stability	**3. STABILIZATION AND PROTECTION MEASURES**
3.2 Construction of dumpsite protection/stabilization barriers	3.2 Construction of dumpsite protection/stabilization barriers	3.1 Construction of dikes for waste stability
4. GAS MANAGEMENT	**4. GAS MANAGEMENT**	3.2 Construction of dumpsite
4.1 Implementation of gas	4.1 Implementation of gas	**4. GAS MANAGEMENT**
5. CLOSURE MEASURES	**5. CLOSURE MEASURES**	4.1 Implementation of gas
5.1 Implementation of final cover and closure of the site	5.1 Implementation of final cover and closure of the site	**5. CLOSURE MEASURES**

To estimate the intervention amount, were recommended the Prices Manual and technical analysis, approved by DCM No. 629, date 15.08.2015 "For the approval of technical manual for construction work prices and their technical analysis"

For simplicity, prices manual and an example BoQ were delivered [2] to all the working groups in an electronic copy. During local experts training, as a concrete example of intervention, was also introduced technical Project of Puka Dumpsite Rehabilitation supported recently from dldp. The measures foreseen in this Project treated almost all those foreseen on the measures catalogue defined in this Methodology.

[2] The completed example was elaborated for the rehabilitacion of Puka dumpsite

a. Not understanding the Methodology

In some cases, the local experts have foreseen only one intervention measure, avoiding the others. For example, there have been Recommendation Reports for dumpsites that would be rehabilitated or closed where was foreseen only measure: *1.3 Construction of fencing*, thus avoiding or underestimating all other equally important measures.

In some cases, terminology was confused, mainly for Rehabilitation and Closure of dumpsites interventions. More specifically the Closure and area setup (by planting trees or greenery) after the dumpsite would be closed was understood as a Rehabilitation of the dumpsite, resulting in misunderstanding in the central level working groups that collected all information nationwide.

b. Waste displacement

In most of the cases where it is understood that waste is to be sent to the nearest rehabilitated dumpsite. Waste removal to the nearest sanitary landfill or Treatment Waste Plant (like in Elbasan) was foreseen only in those municipalities that are near such facilities. It should be also cleared that even in these cases, at the intervention costs is not included the cost for depositing the waste in such facilities (gate fee).

c) Ready-made projects

The main municipalities of the country, in some cases have ready-made projects designed mainly for closing down existing dumpsites. These projects designed by specialized foreign or local expertise, provide closure with maximum standards, by studying in detail the problematic and thus anticipating the elimination of all risks. It is understandable that these projects are accompanied by the corresponding BoQ which value is very high in comparison to the value foreseen in the Methodology for Dumpsite Risk Mitigation. Consequently, in these cases the Local Working Groups have insisted on considering already drafted projects and not according to the Methodology.

d) Prediction of measures and BoQ (costing)

The preparation of a Recommendation Report on Improving Dumpsites, being the most technical stage of the entire process, reflected a lot of problems. It is worth noting that local WGs have faced real difficulties in this process. Actually, the cost calculation task, even approximately, is quite challenging considering the tight deadlines that were not enough to make the necessary measurements, at least at the level of a project idea. For example, the size/length of the water treatment system with parameters and different data that are not evaluated at the appropriate level. In the engineering aspect it is clear that the size of the intervention (the respective volumes) have a direct impact on its cost.

Some working groups, in the absence of the necessary expertise, did not commit to complete this Report with the necessary measures and drafting of the cost estimation. Under these circumstances, the reports together with the cost estimation were compiled by the expertise engaged by dldp (consulting company) for this purpose.

2.2. Limitations (restraints) of the Methodology

Taking into consideration the method of information gathering, the Methodology for Dumpsite Risk Mitigation, besides technical aspects, poses indirectly also some of the organizational requirements, among which the most important are:

- Information should be collected, elaborated and validated on a hierarchical scale, starting from the local level and ending at the central level;
- The working group in the Prefecture, being directly related to the Ministry of Tourism and Environment, will act as an intermediary in the process, mainly acting as a coordinator;
- In all cases, the Prefecture Working Group should have municipal representatives for information on the territory they administratively cover;
- Co-operation between institutions should be maximized during this engagement

In conclusion, considering the real conditions of work on site and other technical and organizational factors related to:

1. Level of expertise involved (local WG);
2. Information gathered for each dumpsite;
3. Time limits made available for the whole process

We conclude that the final product of this Initiative:

- Evaluates and provides only emergency measures for mitigating the main identified risks without entering into in-depth technical analysis;
- To solve the management of integrated waste management, the municipality/region intervention plan does not foresee the opening of new dumpsites;
- The Recommendation Plans are not a set of technical projects for dumpsite closure or rehabilitation;
- Drafting Implementation Projects requires additional technical engagement.
- MTE should consider the fact that the financial value calculated with the above deficiencies has a margin of error;

3. Work organization at Central and Local Level

3.1. Setting up of the Working Group at central level

Working Group at central level was setup based on the Tourism and Environment Minister's Order No. 35, date 02 of February 2018 "Working Group setup for the verification of the conditions of existing dumpsites and definition of requirements for their improvement/rehabilitation" (see Annex 2).

First, MTE experts were introduced with Methodology of Risk Mitigation on the Dumpsites and all the ready-made forms to be distributed, based on which the Working Groups at local level will report further. In a close collaboration with Prefects was compiled the Working Programme for the organization of local experts training relating to technical aspects that will be followed along the process. The trainings were developed in two distinct stages, first by elaborating necessary expertise that had to be included in the Working Groups at local level and some basic elements of the Methodology and afterwards clarification of the thoroughly technical-engineering aspects regarding the Proposed Measures for improvement of the dumpsites and their costings[3].

To facilitate the communication and data updating coming from local experts, MTE coordinators setup an electronical virtual space (in google drive[4]) structured according to forms and reports that needed to be prepared. This instrument helped very much the process because everyone could check in real-time the work processes, quality of the report fulfillment, etc. At the same time, by promoting "the good examples" local experts helped each-other reciprocally for different technical aspects.

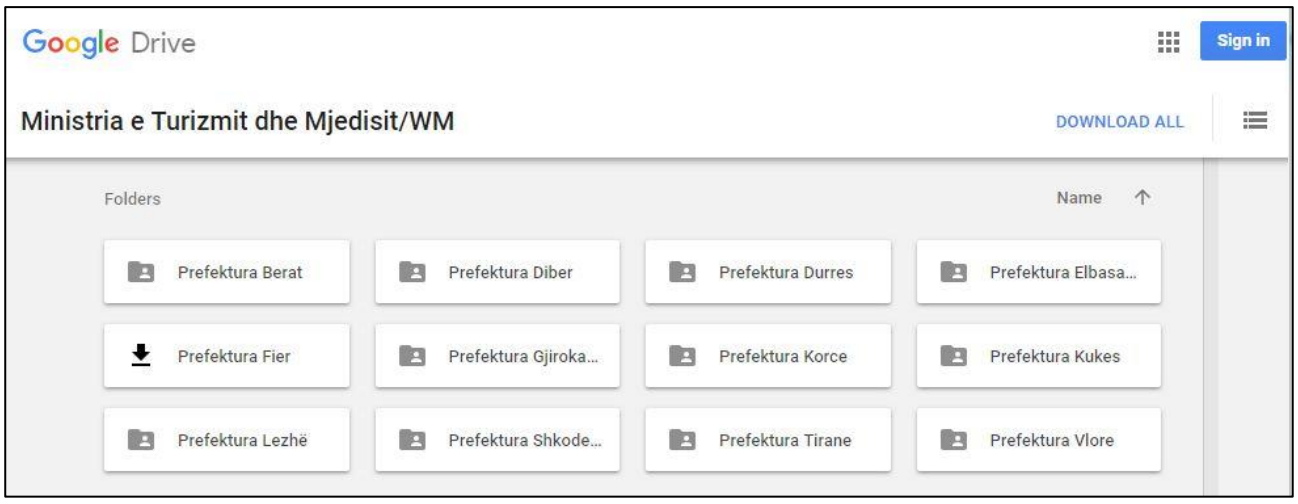


Fig. 3.1 Snapshot of the virtual space (Google Drive) for reporting

[3] For more detailed information related to organized trainings see Annex 3 of this Report

[4] Link: https://drive.google.com/drive/folders/1bKp_KVW2S4UjM0l1an26yHkrdcFa8RU-?usp=sharing

3.2. Setting up of the Working Group at local level

Based on the official communication of MTE with all 12 Prefects, were setup the Working Groups in each prefecture. Considering the Methodology to be implemented, dldp drafted some minor requests for the composition of the groups and the necessary expertise they should have. These terms of reference for the Working Groups at local level, were subject of the firs training from MTE and experts of dldp, in each Prefecture. In these trainings was presented first the Methodology and then were treated the real capacities according to the requests of this process.

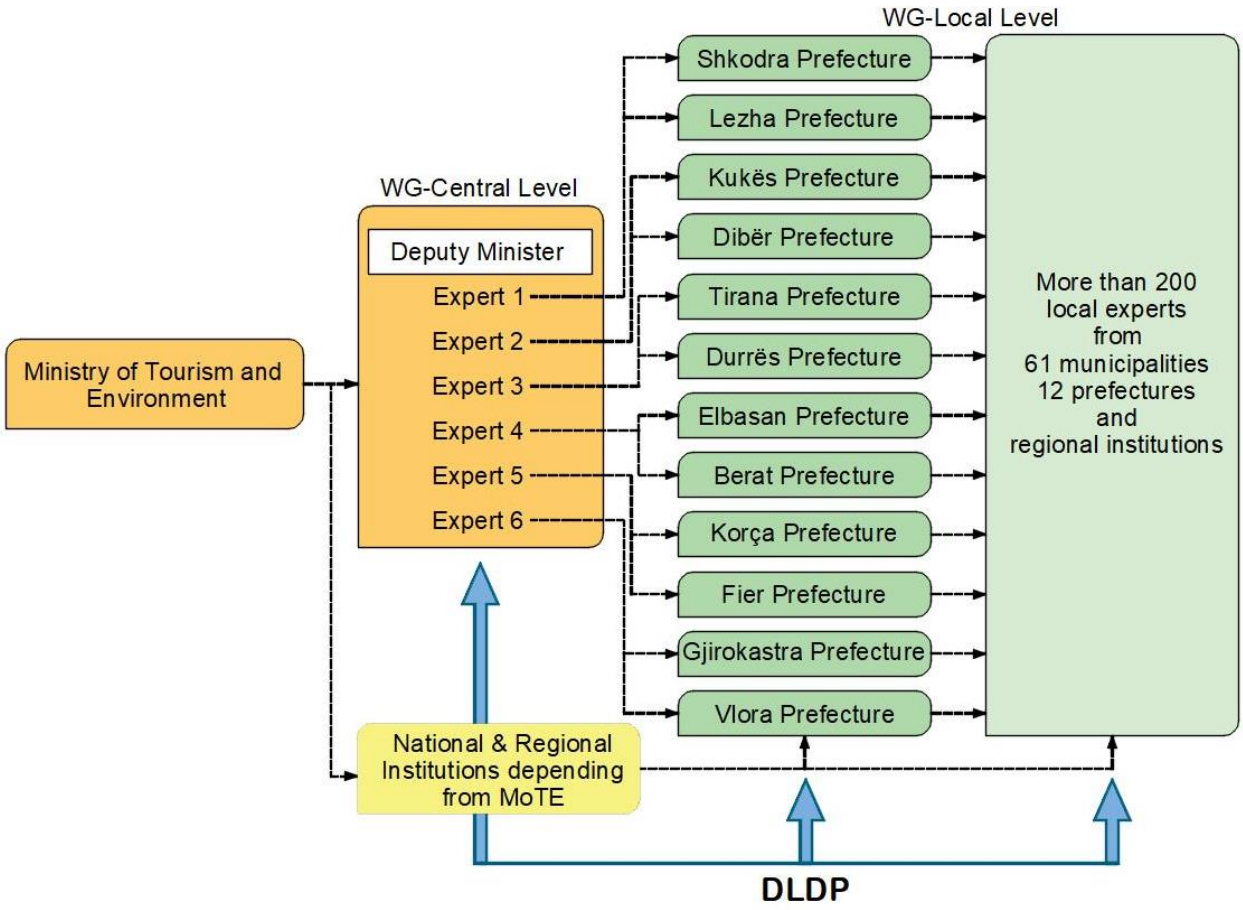


Fig. 3.2 Schematic view of organizing the work al central and local level

The main requests for the composition and expertise of the local groups were:

1. Work groups experts at prefecture level were:

- ***Environmental Engineer / Geographer***: The environmental engineer / geographer's role is to bring global vision of the environmental constraint to the evaluation. He/she will assess the general set-up and the context of the dumpsite from an environmental point of view, identifying the main sources of potential impact.
- ***Hydrogeologist / Geologist***: The Hydrogeologist / Geologist's role is to bring expertise on the constraints related to underground water and ground stability to the

evaluation. He/she will assess the general set-up and the context of the dumpsite from a geological and hydrogeological point of view, identifying the main sources of potential impact.

- ***Topographer:*** The topographer's role is to bring expertise on the constraints related to access and layout of the current situation and estimate the main site size and volume. He/she will assess the general set-up situation, including accessibility and distances to populated areas. On site, he/she will evaluate the size of the dumpsite and the volume of deposited waste. In case the information is available, he/she will identify the site owner.
- ***Civil engineer:*** The civil engineer's role is to bring expertise on the constraints related to feasibility of the operation of the landfill. He will assess the stability of the dumpsite and design measures to guarantee this stability. He/she will assess the general set-up situation, the presence of civil engineered infrastructures that could influence the site use (upstream/downstream dams, electrical network, water network, etc.) and provide insights about the feasibility in the implementation of the technical measures to improve the site condition. He/she will design and/or assess the feasibility of implementation of the technical measures, in collaboration with the other WG specialists, providing the base for the estimation of costs of the measures.

2. Each working group should have at its disposal at least one waste management sector expert, from the municipalities that were part of the prefecture. As one of the functions of the municipalities is the collection, removal and treatment of urban waste and considering the recognition of the administrative territory that the technical staffs of the municipalities have, the presence of the municipality expert in the Working Groups was an obligatory requirement.

3. Municipalities could form the working groups themselves with the above composition, but anyway coordination with the MTE could be through the working group/expert appointed by the Prefect.

Due to the lack of necessary expertise, in the Prefecture structures in most of the cases, the working groups established at the municipalities made the evaluation of the landfills and the role of Prefectures resulted as a coordinator between the municipalities and MTE. Also, by gathering information from each municipality, they drafted the Categorization Report and the Recommendations and Intervention Measures at the District level

The initiative "For the Dumpsite Risk Mitigation ", launched at the beginning of February and concluded within a 3-months term, included field and office work of over 250 local experts, that continually enriched the data platform with all the technical data needed. It is worth mentioning that the added value of this process was the close coordination of work from the central and local government structures.

3.3. Trainings

In order to be familiar with the Mythology and the steps to be followed for the evaluation of the dumpsites, MTE supported from dldp organized a set of trainings with all the working groups at local level. These trainings were developed on each region where participated were not only the key experts coming from Prefectures and Municipalities, but also those that will support the process.

These trainings are organized in 2 main phases:

First phase: The first set of trainings consisted on clearing the steps to be followed for the evaluation of the dumpsites and for the minimum requirements related to expertise that will be part of the Working Groups at local level.

For this phase, trainings were conducted at regonal level and lasted almost a week. Hereunder are given details of these meetings in different Prefectures:

- 01 February 2018 Durrës Prefecture
- 02 February 2018 Berat, Fier and Gjirokastër Prefecture
- 03 February 2018 Vlora Prefecture
- 05 February 2018 Tirana Prefecture
- 06 February 2018 Elbasan, Korça, Dibër and Kukës Prefecture
- 07 February 2018 Lezha and Shkodër

Only after finishing these training it was possible to initiate the identification, ranking and prioritization of dumpsites at Region (Prefecture) level, based on the Methodology and on the standard Forms made available for this purpose by dldp**.**

Second phase: The focus of the training on the second phase were for the civil and environmental engineers/surveyors which will elaborate:

- Measures plan for condition improvement/risk mitigation of dumpsites
- Estimation of the volume of the works, and
- cost estimation based on the national standards.

For this purpose, trainings were conducted on:

- 14 February 2018 Vlorë, Berat, Fier and Gjirokastër Prefecture (training was conducted at Vlora Prefecture)
- 15 February 2018 Tiranë, Elbasan, Durrës and Korçë Prefecture (training was conducted at Tirana Prefecture)
- 19 February 2018 Shkodër, Lezhë, Dibër and Kukës Prefecture (training was conducted at Lezha city Library)

In Annex 3, integral part of this report, are shown some moments during these trainings.

4. Validation process

Considering the straight time limits during which was organized this Initiative at a national level and the encountered issues throughout the process (clarified in the previous chapters), it was deemed necessary that the final results will pass through a technical validation process. For this scope MTE, through an inter-institutional collaboration demanded the commitments of some National Agencies, where the main ones are listed below:

- State Authority for Geospatial Data (ASIG[5])
- National Agency of Protected Areas (NAPA[6])
- National Territory Planning Agency (NTPA[7]).

On the other hand, dldp programme that supported the entire process engaged a consultant company that would deal with all the encountered issues from the Working Groups at local level. The consultant company (UTS-01 sh.p.k.[8]) in close collaboration with dldp experts, became the focal coordination point of the entire valuation process reflecting the suggestions coming from the central institutions.

After due corrections (where deemed necessary), the reports were prepared once again at municipality level and were delivered among Prefects for final approval from Municipality Mayors. All this process is schematically explained on the following figure.

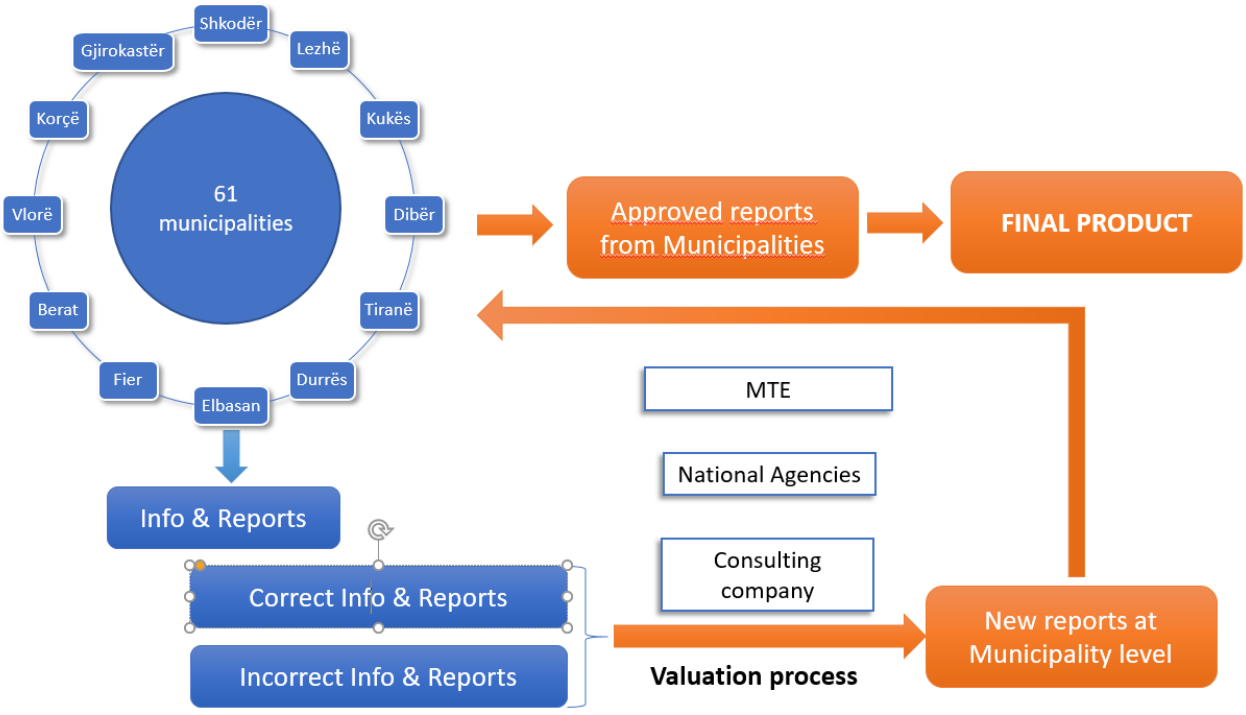


Fig. 4.1 Validation process

[5] https://geoportal.asig.gov.al/
[6] www.akzm.gov.al/
[7] http://planifikimi.gov.al/
[8] http://uts-01.com

The process of validating the information and sharing the conclusions of this Initiative included several other institutional and academic actors who provided a valuable contribution to this process. Among the most important workshops we can mention:

- Ministry of Infrastructure and Energy
- Eptisa Regional Office, Tirana
- GIZ Albania
- Department of Environmental Engineering, Faculty of Civil Engineering (PUT)
- Albanian Development Fund

The valuation of collected data and technical analysis with the main actors currently engaged in the integrated waste management sector, significantly increases the sustainability of the achieved results and provides a secure platform for passing to the implementation phase of the “For the Dumpsite Risk Mitigation" initiative.

The following paragraphs provide a description of the engagement for each of the above parties, showing a summary of their contribution to the Risk Mitigation Initiative at Dumpsites.

4.1. ASIG involvement at the data valuation process

ASIG experts were the first to be invited to valuate data from local working groups. Part of the information that would be referred to each dumpsite was their geographic position and based on this data, the following WebGis platform would be developed for this purpose.[9]

In the reports coming from the working groups it was found that geographic coordinates referred to different formats and projections, and their geographic location in many cases was inaccurate. This resulted from different experiences that topographers used on the format and geographical projection. Below are shown some of the coordinate formats that were reported by work groups for dumpsites within the same region:

- Dumpsite xxxx: 34T 0409837, UTM 4509331
- Dumpsite yyyy: E 400243, N4514256
- Dumpsite zzzz: X: 394813 Y: 4492893

As mentioned above, the involvement of ASIG's expertise was intended to unify the format and projection to be used for the geographic references of the dumpsites. In collaboration with experts from MTE and dldp, information and explanatory materials were distributed to all working groups, indicating how geographic coordinates should be presented, based on the Albanian Geodetic Reference Framework 2010[10]

Below is provided a graphic material, part of the information material, clearly indicating how to obtain geographic coordinates from the ASIG official site.

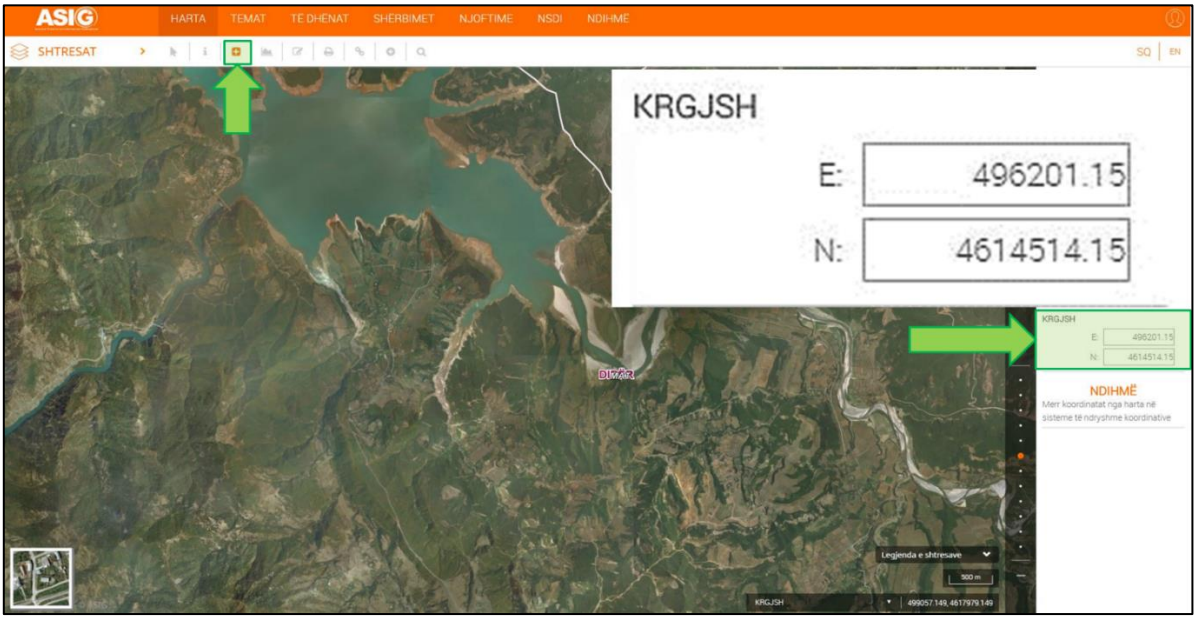


Fig. 4.2 Snapshot from official Geospatial portal (ASIG)

[9] In the Prioritization Report, for every dumpsite should be specified the geographical coordinates

[10] Approved by DCM No. 669, date 07.08.2013, "For the approval of rules for the definition, creation and implementation of the Albanian Geodetic Reference Framework (AGRF-2010) as metadata"

4.2. NTPA involvement at the data valuation process

The National Territorial Planning Agency (NTPA) is the responsible planning authority under the ministry in charge of planning and territorial development issues. In this framework, NTPA drafts plans at national level and at the same time, coordinates the processes of drafting territorial planning documents, between territorial planning authorities, both horizontal (among central government institutions) and vertical ones (among local and central institutions).

In addition, in 2014, after the approval of the Administrative Territorial Reform and Law 107/2014 "On Territorial Planning and Development"[11], NTPA has technically led and coordinated the drafting process of GLP throughout the country.

Based on references of the legal framework for territorial planning, the General Local Plan is the document that defines the mandatory reference framework for the protection and use of the administrative territory of the local government unit.

Because all of the territorial information that contains GLP is geo-referenced (in GIS system) and actually 44 municipalities have approved the General Local Plans, MTE addressed the NTPA to validate the data from the locally working groups. The information contained in the GLP for these infrastructures, would be used as a verification basis.

From the official data it results that the 44 municipalities with the approved GLP are the ones with the largest urban concentration, that constitutes over 70% of the territory of the country. Thus, this database was judged sufficient for a verification of the geographic positioning of the dumpsite at national level. The Fig. 4.3, below shows a map of Albania municipalities that have GLP approved.

We should bear in mind that NTPA takes for granted the information from the field that technical staff of the municipalities and consultancy companies include in the GLP reports. Regarding existing dumpsites, as a validation basis was used the information in the chapters dealing with environmental issues in the Territorial Analysis report of each GLP, including the former MUD mapping data.

From the verification carried out (see Figure 4.4), it resulted that most of the dumpsites reported by the working groups matched with those referenced in the GLP. In some cases, where they did not match, it was easy noticed that it referred to the same dumpsites, but the geographical references (used by different sources) caused minor shifts in their positioning. This map also includes scheduled landfills for which MTE platform did not have any information

[11] Law No. 115/2014 "For the Territorial-Administrative division of Local Governing Units in the Republic of Albania" and law 107/2014 "For the territory planning and development" approved at the same date, on 31 July 2014

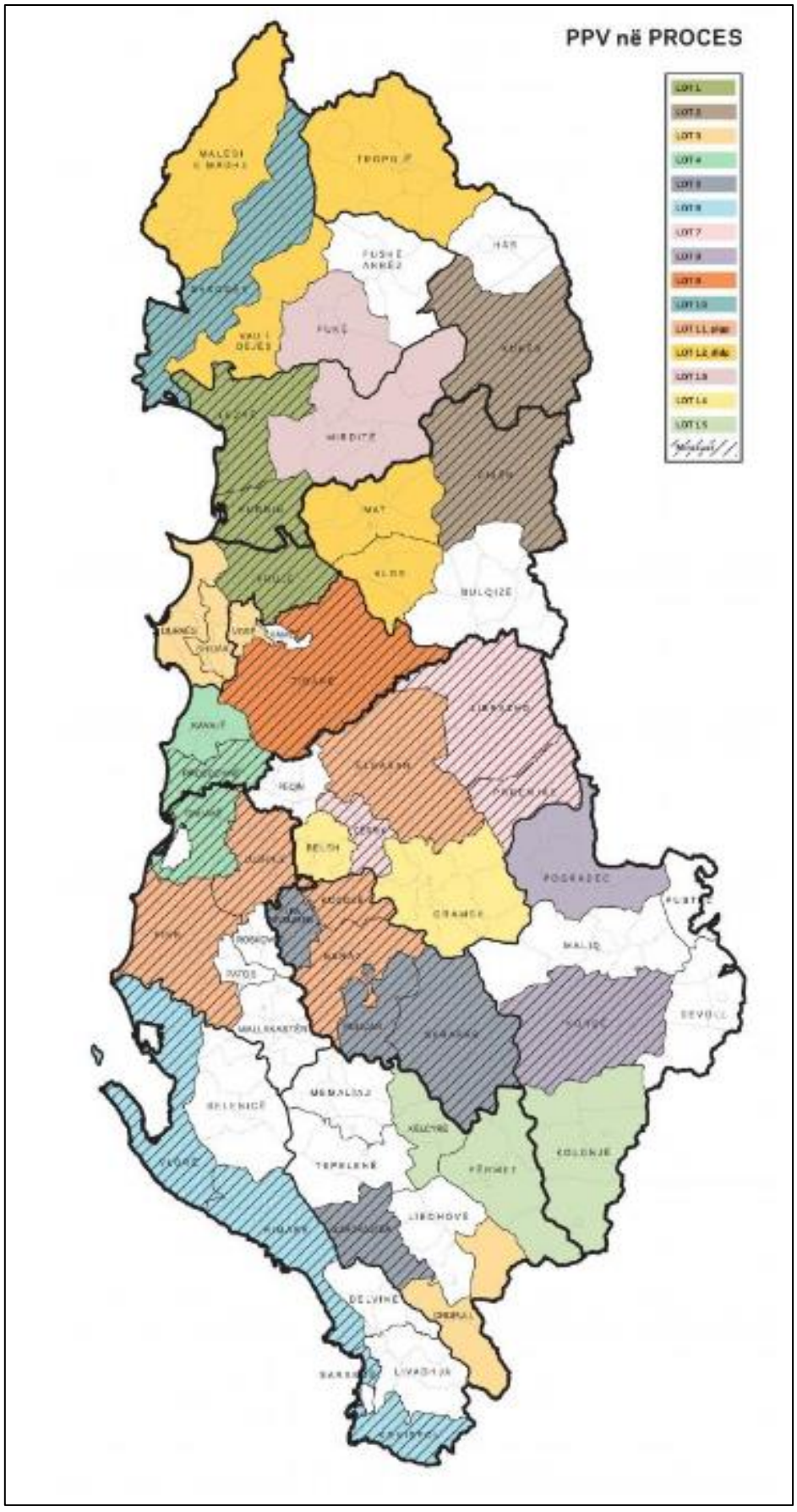


Fig. 4.3 Indicative map for GLP's approved and in the drafting process.

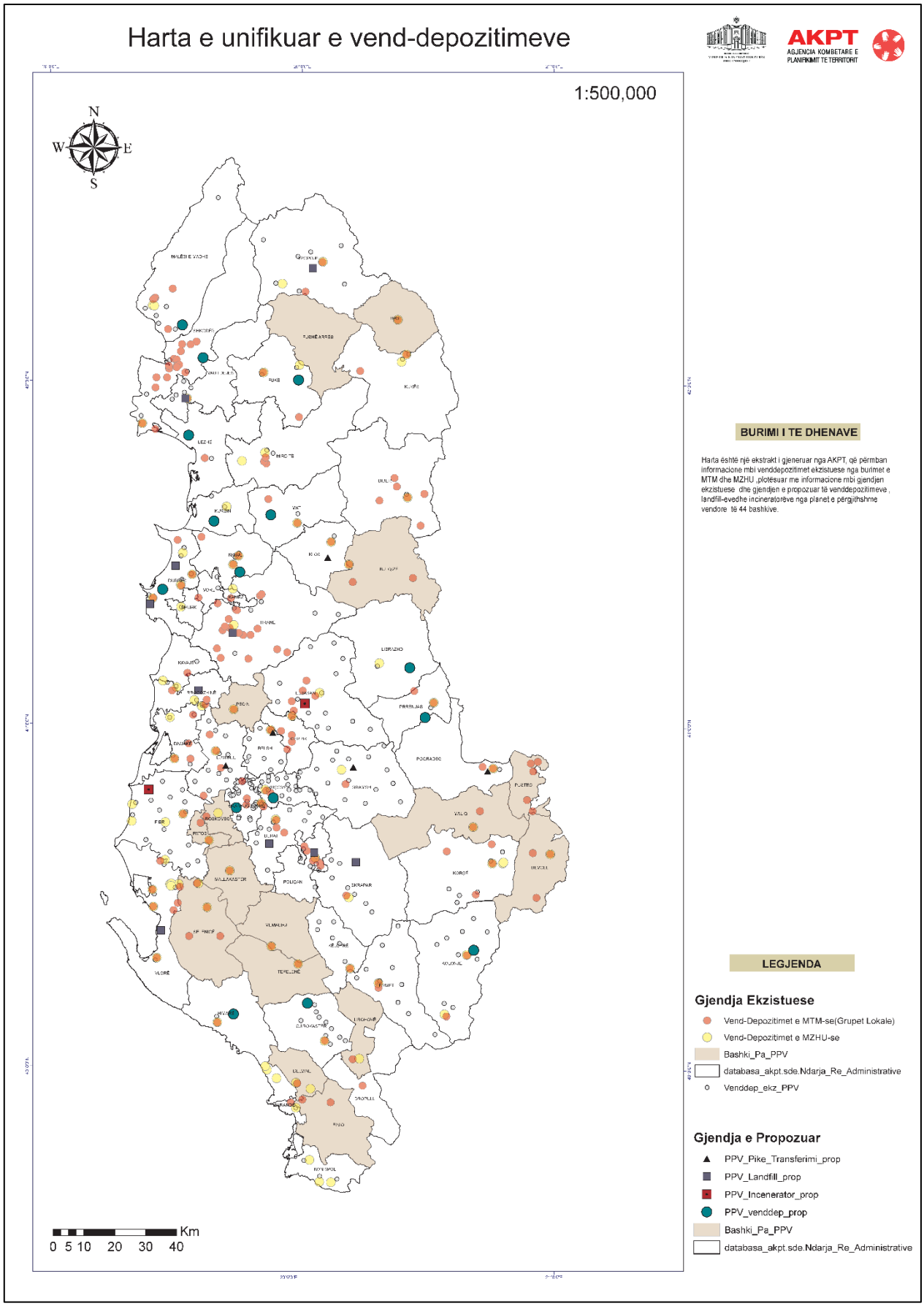


Fig. 4.4 Map of NTPA for dumpsites

4.3. Consultant company involvement in the validation process

The consultant company UTS-01 was involved in the process through dldp programme, to reach these main goals:

1. To provide technical support in the process of co-ordination with other stakeholders included in the Initiative "Dumpsite Risk Mitigation ";
2. Provide the necessary technical support for the validation of the collected data;
3. To match the technical results of GIZ Albania and Eptisa expertise for the municipalities they offer assistance, as well as their inclusion in the data and recommendations platform of the Initiative "Dumpsite Risk Mitigation";
4. Set up a Web GIS platform with all the information gathered;
5. Compile the Report of results of the initiative at the national level

Following, for each of the objectives, is provided a brief description of the company's commitment and contribution.

4.3.1. Coordination with other actors

The consultant company, in close collaboration with dldp experts, provided a valuable contribution to the co-ordination of work with all stakeholders involved in the process. This support consisted mainly of:

- Presentation with the national strategic documents, in the drafting process and use of the concepts proposed by these instruments in order to harmonize results with strategic approaches. For example, drafting analysis and results based on the new map of the Waste Areas that these documents refer to.
- Elaboration of preliminary reports and introductions with different topics which were the focus of meeting with public institutions, private entities or group of experts;

Inclusion and reflection of their comments on data validation collected by local groups.

4.3.2. Dumpsites of former MUD

The digital map of urban waste dumpsites from former MUD[12] (that is actually administrated by MIE), was one of the main data considered, and was used for the validation of information received from local groups. From official data, it results that:

- 89 non-sanitary dumpsites of urban waste
- 3 sanitary landfills

From the geo-referencing of information reported by local groups, after clarifications, it resulted in 199 dumpsites throughout the country. Based on this input was realized a Web

[12] Hereinafter referred just as the map of former MUD

GIS map containing all the information of the Initiative "Dumpsite Risk Mitigation ". More detailed mapping of MUD is provided below.

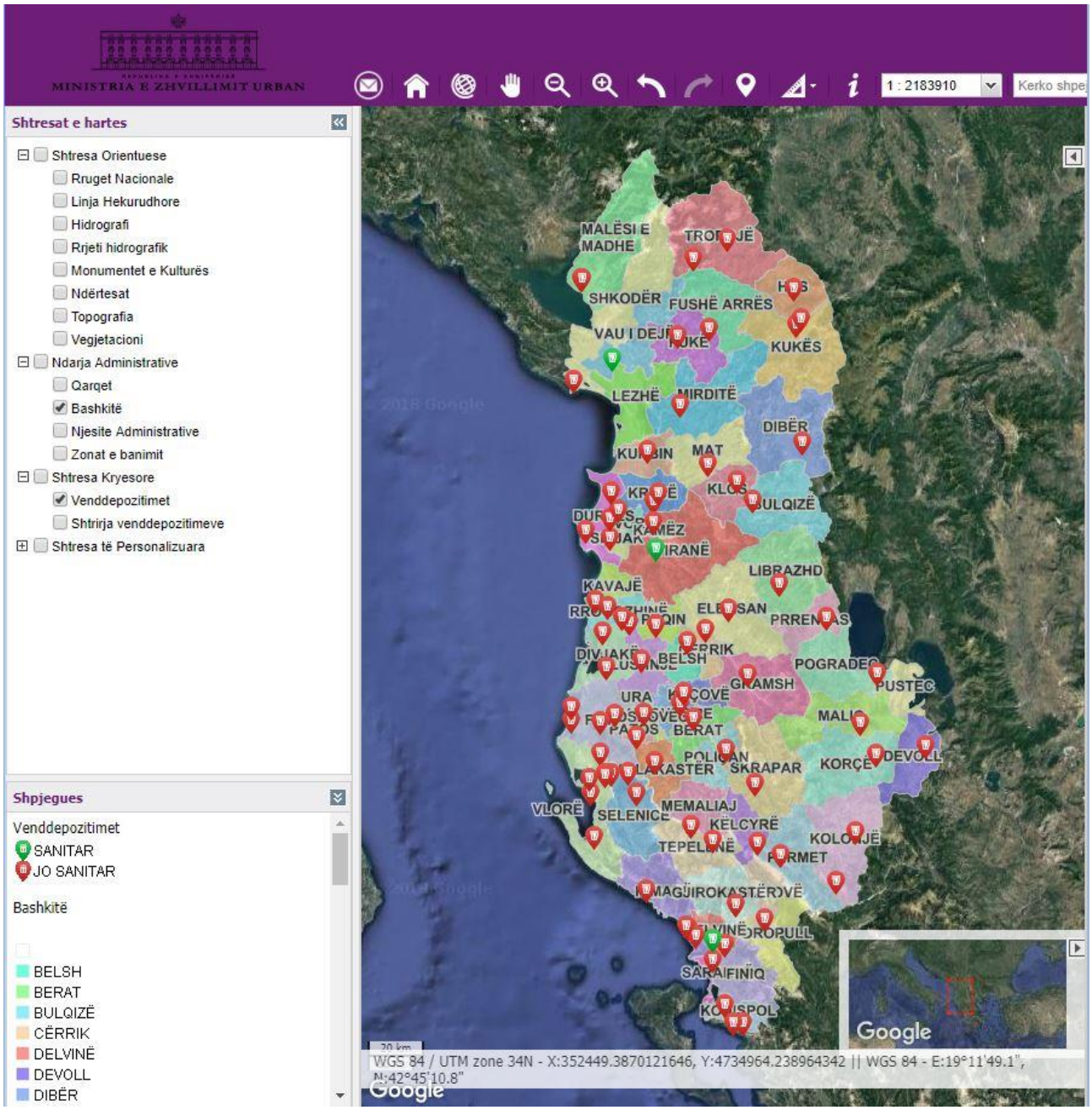


Fig. 4.5 Snapshot from the official page of the dumpsite map of former MUD

Apart from the difference on numbers of dumpsites that each platform contains, by overlapping them, the map showed many points (dumpsites) that did not match. On an in-depth analysis for every dumpsite from former MUD, the following cases resulted:

Case 1: The dumpsites in the map of the former MUD does not match the information provided by the local working group (Prefecture / Municipality);

Case 2: The dumpsite in the map of former MUD refers to another position from that of the working groups, although it was named the same (so the same dumpsite match references but not in the map – they are displaced from each-other) thus they needed to be unified;

Case 3: Dumpsites at former MUD map are given in another former position in comparison with those referred to the working groups. A typical case is the one below, at the municipality of Selenica, where the map of former MUD shows the dumpsite down the street, while the working group referred to the upper one. Form orthophoto it is clearly seen that in both positions there are deposited waste.

Fig. 4.6 Dumpsites in Selenica Municipality

Case 4: Dumpsites referred on the map of the former MUD but which for various reasons had been displaced or were initially set incorrectly on the map. Among these we can mention the dumpsite location of Gramsh.

The construction of the Banja hydropower in Devoll cascade, made it necessary to relocate the existing dumpsite because it was flooded by the lake created. Under these conditions, the municipality had approved[13] the relocation of this dumpsite to the Mashan village of Gramsh.

[13] Decision of Municipality Council No.10, date 10.02.2016 "For the closure of the current dumpsite of urban waste and the approval of the new depot of Gramsh municipality"

Fig. 4.7 Photo of the displaced dumpsite location in Gramsh

Another case was in the municipality of Skrapar, where by official communication it was pretended that the mapping site of the former MUD was incorrectly set and should be corrected according to the information from the working group.

All the completed work in comparing the data with the map of the former MUD was also reflected in the correction or re-drafting of the forms and evaluation reports for each dumpsite. This process will be specified in Section 4.3.3, which describes the engagement of the consultant company for data valuation.

4.3.3. Data validation

Part of the consulting company's engagement was the data validation of that was collected and reported by the working groups. This process consisted in the technical assessment, correction and filling out:

- Ranking forms for each dumpsite;
- Prioritization reports of landfills at District/Municipality level;
- Recommendation reports (intervention measures and budgeting) at District/Municipality level;

Validation consisted mainly of the professional assessment of all the problems encountered by the local groups, as explained in paragraph 2.1, for all stages of the process, starting with evidencing the dumpsites and ending with the recommendations for the intervention measures and their cost estimation.

During the validation process there were also considered information received from NTPA and the content of former MUD map. The complete data package that was required for the Methodology (Scoring Form and Reports) was redrafted for all dumpsites on the former MUD map but that were not indicated by the local working groups (Paragraph 4.3.2, Case 1). These were part of reporting at municipal level, which were resubmitted for final approval.

It should be mentioned that visiting the site in order to verify the technical criteria or to measure in-situ was not part of company's tasks.

Hereunder are listed the main interventions for each phase of the process:

1. Ranking Forms for dumpsites

As explained above, for the 34 dumpsites showing on the former MUD map but that were not reported from local working groups, Ranking Forms were filled from the start.

Further, there were corrected 64 Forms, mainly related to criteria that were difficult to the working groups to evaluate properly (described in paragraph 2.1.2). At the end to all the corrected Forms was added the proper note for the respective changes also explaining why.

Taking into consideration the high level of informality, mainly at the west-lower part of the country, criteria for the proximity to the inhabited areas (criteria no. 8) was filled/corrected considering the distance from the urbanized are border, based on Decision of NTC No. 5 date 29.12.2014[14].

In order to confirm such consideration, the map of the Decision of NTC No.5 was overlapped with the INSTAT map showing population density, having 1km^2 cells.

[14] NTC Decision No. 5 date 29.12.2014 "For the identification of urbanized areas throughout all Albania territory and approval of the maps where it can be intervened for urban development purpose".

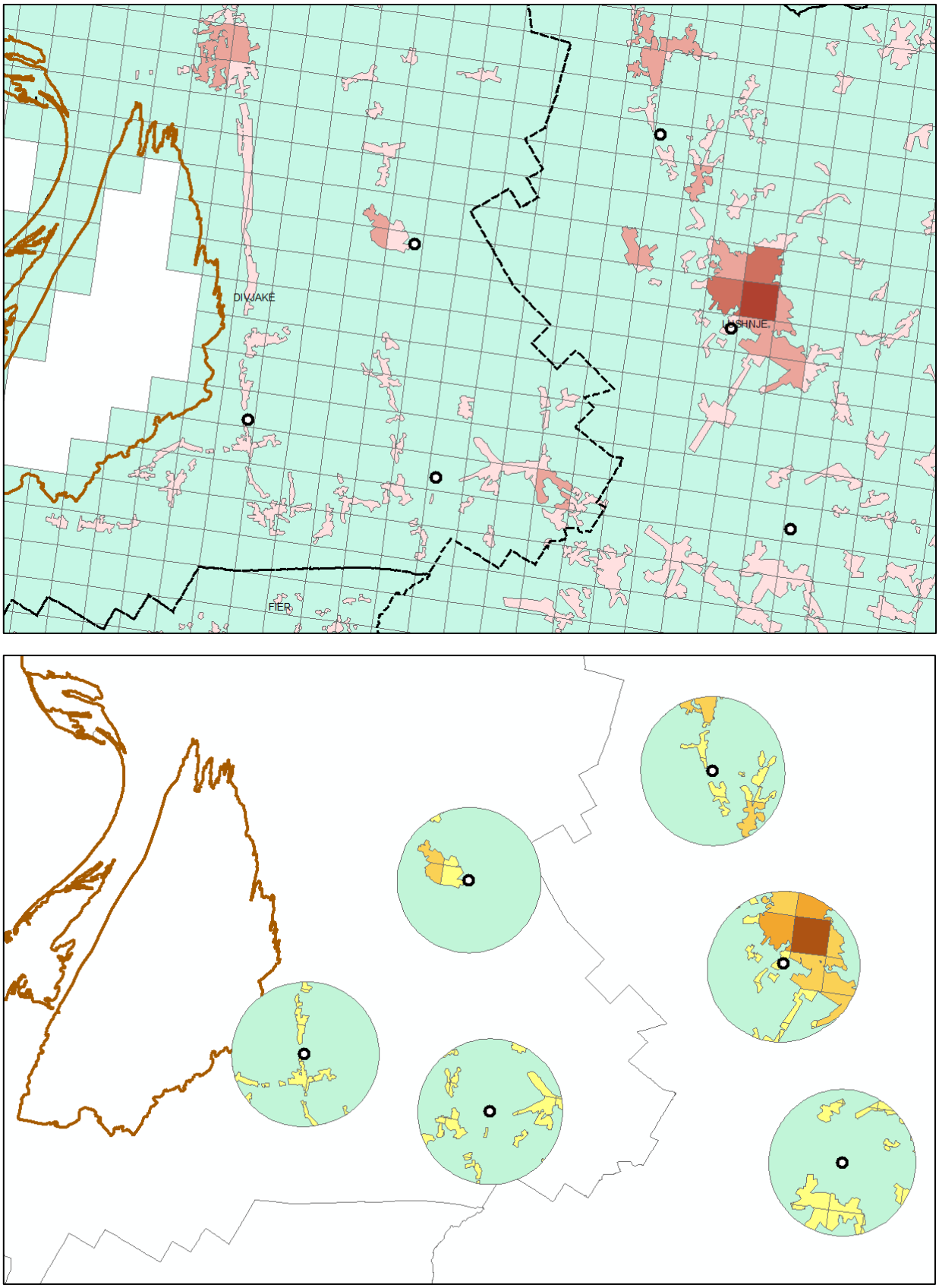


Fig. 4.8 Distance defining from the inhabited area

2. Prioritization Report

Initially, at the Prioritization Reports (at Region/Municipality level) were included the 34 files of the dumpsites which resulted only in the former MUD map.

3. Recommendations Report and Intervention Measure BoQ

As stated above (paragraph 2.1.5), selection of adequate measures for the risk mitigation highlighted from Methodology and their BoQ estimation has been among the task that encountered bigger issues. Under this point of view the reflections of the local working groups are grouped as below:

- Working Group at local level elaborated Recommendations Report and estimated the BoQ of intervention measures taking into consideration all the measure referred in the Methodology and the suggestion related to costing standards. In these cases, the Consultant has not done any revision. (It is the case when Working Groups had included in their team the proper expertise and have completely understood the Methodology of the Dumpsite Risk Mitigation);
- Working Group at local level has not elaborated a measure plan or has foreseen only some technical measures (for example, only fencing of dumpsite) when clearly there were need further measures. In these cases, the Consultant intervened by elaborating or completing the measures plan and the respective BoQ;
- In those cases when the dumpsite is reported at the former MUD map, measures plan and their BoQ is fully elaborated from the Consultant;
- Technical expertise supported from foreign donators (GIZ, Eptisa) has foreseen specific plans for specific dumpsites for the areas covered by their study. In these cases, through proofing the technical and project estimation is checked whether these evaluations fit the measures that are proposed in the Methodology and also was checked whether the BoQ fit the national standards.

In order to unify intervention measures and their respective costing according the accepted methodology, MTE lead the coordination process with all involved actors. As a technical basis for price estimations was considered the Prices Manual 2015[15], which is officially used during public works cost estimations. In those cases that this Manual did not define precisely the needed rate, expert group had to detail respective analysis based on criteria used by these manuals.

Among the main issues of the costing for the intervention measures still remains the accuracy of this estimated costs which depends directly on the quantity of the necessary works, case by case, for each dumpsite. As mentioned above [paragraph 2.2, Limitations (Restrains) of the Methodology] by considering a series of factors that affects the accuracy

[15]Approved with DCM No. 629, date 15.07.2015 «For approval of the prices technical manuals for the construction works and their technical analyses»

of the estimated cost, it should be accepted that the costing results of the Initiative include an error margin. Consequently, these referred costs serve as orientation with an acceptable accuracy in respect to the level of the study performed at this phase. The real implementation works of he proposed interventions shall need further expertise for preparation of Technical design and their respective BoQ for each of these dumpsites.

The consultant involved in the data evaluation has made the necessary validations for each of the cases cited above (when deemed necessary). On the following paragraphs are described technical considerations for the volume calculations and cos of waste transports.

4.3.4. Calculation of works quantities and waste transport

In the case when there was no clear information related to the surface and volume of the waste in dumpsites, consultant company experts have used two coefficients k_s and k_v explained schematically hereunder.

It should be kept in mind that in most of the cases, dumpsite is simply just public propertied made available for waste depositing purpose and have or proper works implementation to classify them as facilities for waste depositing. Their operation with no criteria at all causes the waste to be spread in disordered manner in vast terrain areas.

For this purpose, consultant company experts introduced two coefficients k_s and k_v that approximately represent:

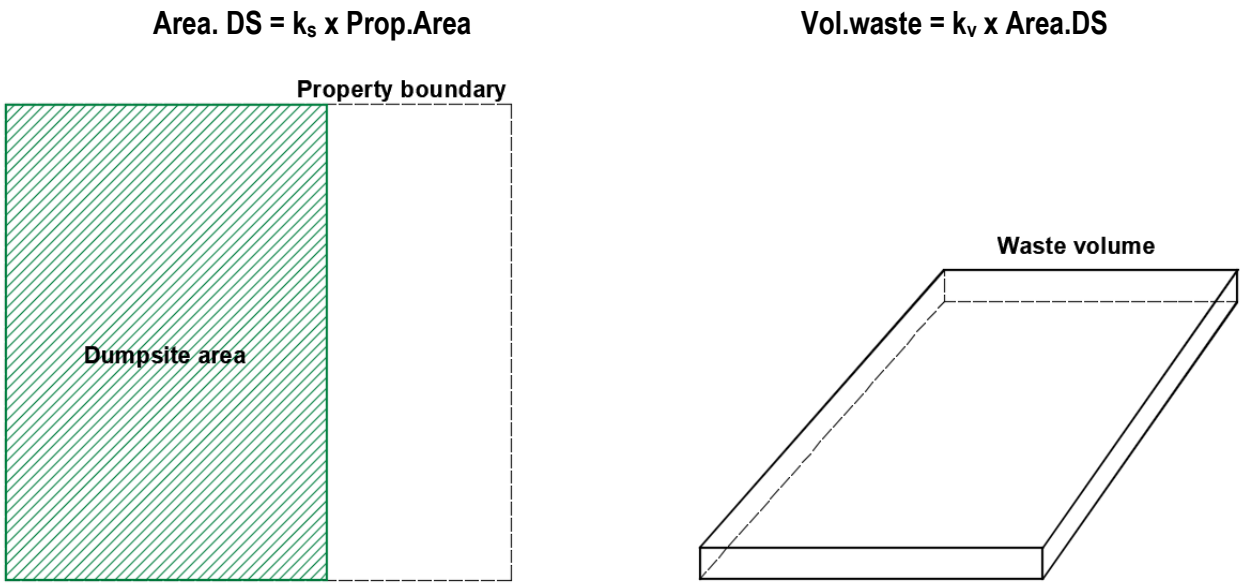
k_s – is the ratio of the property surface (public property) being used as a waste depositing spot with the surface occupied from the waste. The values of this coefficient vary to 0.1 - 1.

k_v – is a coefficient, which multiplied with the dumpsite area (defined as explained above), equals to the-waste volume on the dumpsite. More specifically, this coefficient expresses the height of the waste volume (units in *m*).

In those cases where there was not clear information regarding the area and waste volume at dumpsites, consultant company experts used these two coefficients, k_s and k_v, these coefficients are defined based on:

- Orthophoto (ASIG) and other platforms;
- Photo from local Working Groups;
- Dumpsite usage lifetime (referred to the Categorization Reports);
- Operation method (referred to the Categorization Reports);
- Direct communication with local experts of Working Groups;
- Engineering estimation of consultant company experts

A very problematic issue remains the case when dumpsites are located nearby the rivers.



*) *property contour is the boundary of the property given from municipality for the dumpsite.*

Fig. 4.9 Calculation of the coefficient k_s and k_v

Waste removal - Transport

Transportation cost is based on the Analysis elaborated for this purpose considering the prices Manual 2015. To estimate the transportation rate per m^3 waste, there are considered two main factors:

1. Rate per ton x km depending on transportation distance;
2. Volume weight of waste material
   - Solid waste (rigid) 1.7 ton/m^3
   - Urban waste 0.7 ton/m^3

Volume weight	Distance	Product	Rate/ unit weight	Rate/ unit volume	Volume	Rate
Ton/m^3	km	Ton · km/ m^3	ALL/ Ton · km	ALL/m^3	m^3	ALL
0.7	1	0.7	50	35	10	350
0.7	5	3.5	30	105	10	1,050
0.7	10	7	22	154	10	1,540
0.7	20	14	21	294	10	2,940
0.7	50	35	21	735	10	7,350

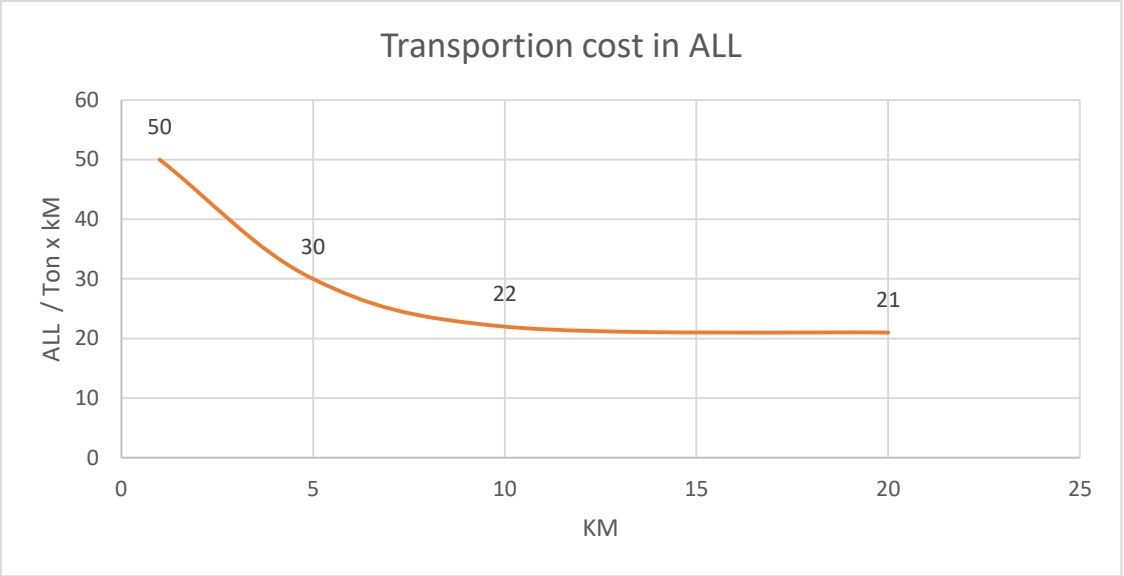


Fig. 4.10 Graph showing transport rate variation

The rate from the above graph takes into account the common dump trucks for the waste transport, and including all the items that are foreseen in the technical analyses of the prices Manual for these type of Works.

In those cases when consultant has estimated the Removal cost, has considered the closest rehabilitated dumpsite as the target location.

The waste removal towards sanitary landfill or ITM Elbasan, according this Methodology, is foreseen only in these cases when dumpsites to be removed are situated approx. 40km around these facilities.

It is important to mention that throughout all the cases consultant has based the technical-economic analyses on the shortest distance possible.

In all the cases, in the intervention cost (waste Removal) there are not included:

- the depositing fee (gate fee),
- Necessary cost for terrain reinstatement after waste removal.

Complete or partial removal must be considered on a case by case basis.

4.3.5. Web GIS Platform

One of the main tasks of the consultant was to generate a map representative of all he data in GIS. This tool makes possible highlighting/reporting of the data, for different levels and purposes, based on the user needs.

ON the WebGis platform website developed for this purpose, is viewed initially the physical map of Albania divided according municipality territories defined by TAR[16]. On this map are noted by dots all the considered dumpsites.

All the information actually hosted on the consultant's server[17], after this report's approval will be transferred on the official web of MTE.

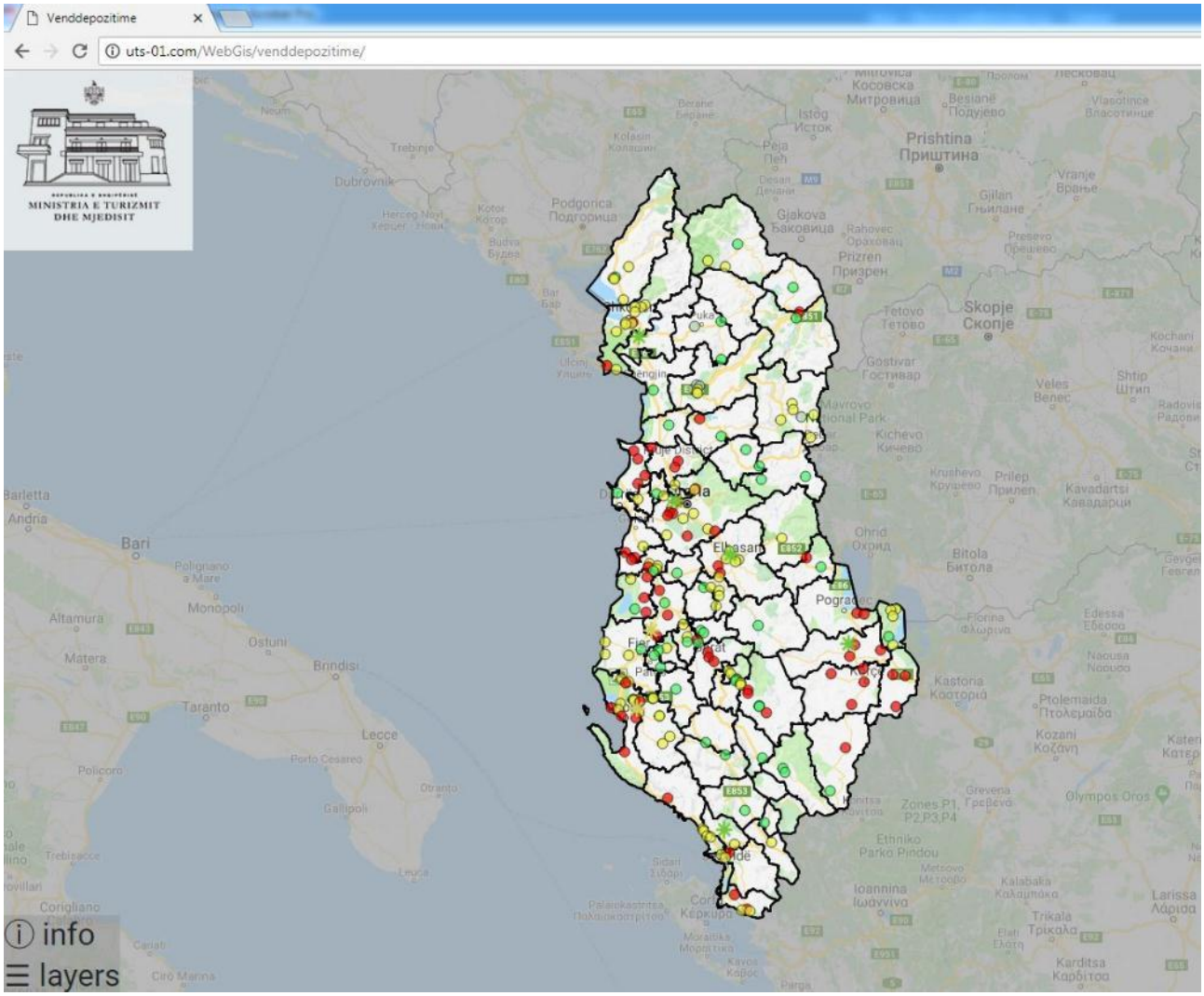


Fig. 4.11 Snapshot from the digital platform of MTE

On the lower left side of the screen there are placed two menus that, if activated show a more detailed information for the dumpsites according to the user interest.

[16] Law no. 115/2014 "For territorial administrative division of local government units in the Republic of Albania"

[17] http://uts-01.com/WebGis/venddepozitime/

If it is used (clicked) the Layer menu, on the left side of the screen appear some data in a table form, where it can be filtered the desired information. This filter can be applied to extract the following information:

- At municipality level
- At region level
- At Waste Zone level[18]

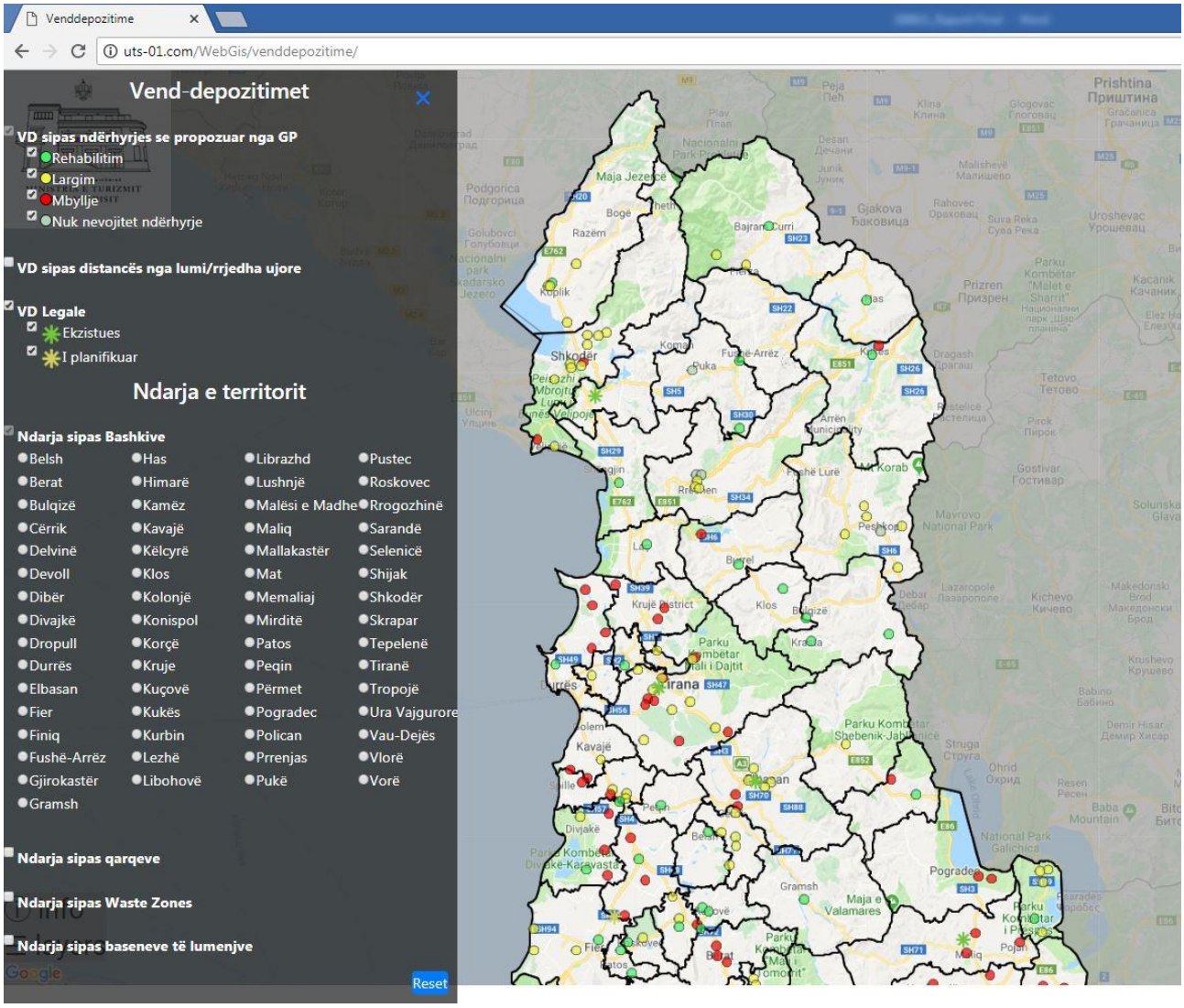


Fig. 4.12 Activation of layered Menus

By default, it is activated the municipality filtering option (and the list of municipalities), because it is the map that is usually viewed on the screen, i.e. with the administrative territory municipality borders. If it is checked a specific municipality box, then the platform focuses the selected municipality (see the screenshot where it is selected Mirdita municipality).

[18] Waste Zone border are referred to Draft-Master Plan being in elaboration process by MIE.

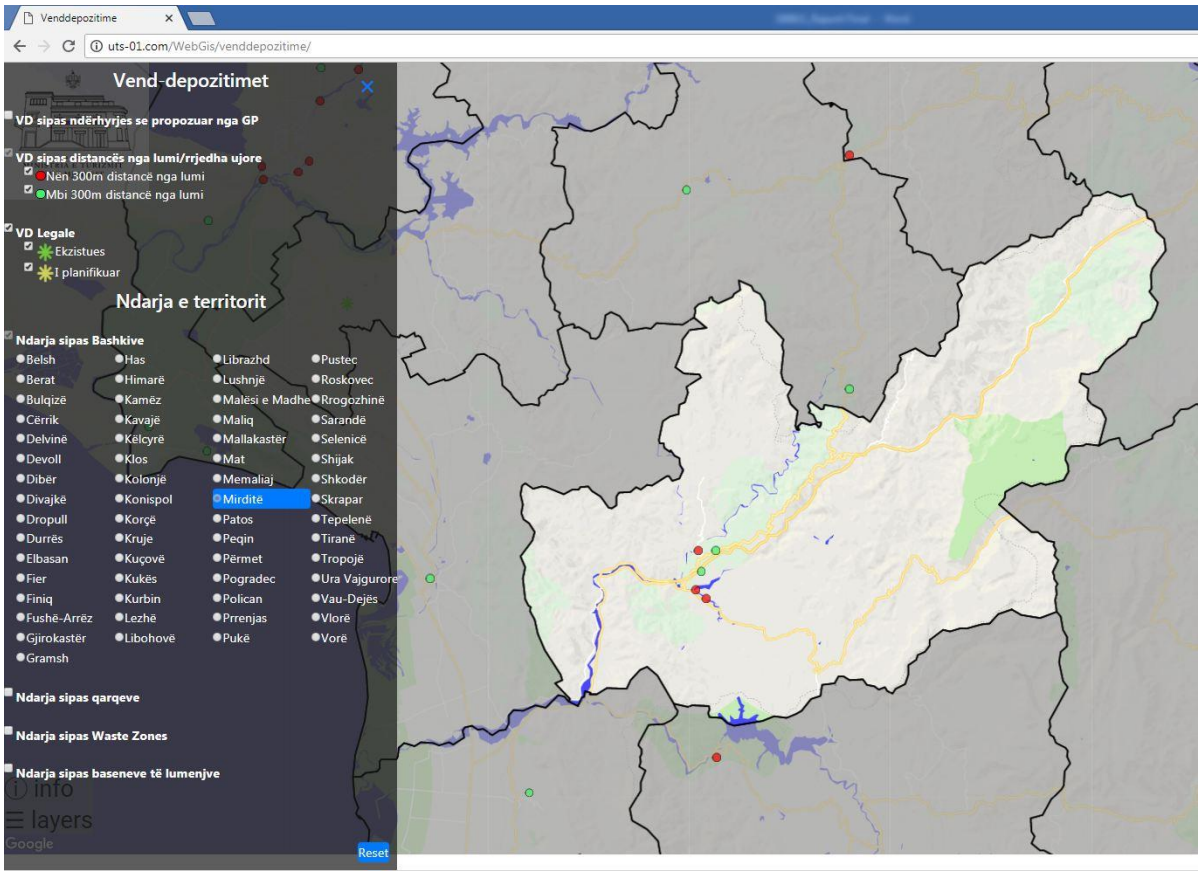


Fig. 4.13 Screenshot of Mirdita dumpsites, in WebGIS platform

If it is selected "Division according regions", on the menu appear all the region names and at the same time on the screen is shown the Albanian map with the Region borders. If it is then selected/activated one checkbox, then in the same manner as with the municipalities the platform focuses on the selected Region.

The same happens if it is elected the "division according Waste Zones" option, where immediately after is shown the list with 10 Waste Zones" and at the same time appears on the screen the Albanian showing clearly the Waste zones borders.

If it is activated "Division according the rivers basins" on the screen is shown the Albania map divided based on the 6 main rivers basins:

- Drini – Buna
- Mati
- Ishmi – Erzeni
- Vjosa
- Shkumbini
- Semani

The "Reset" button on the lower part of the menu, clears all the filters and return to the default platform screen. Following are shown some screenshots for each of the above explained cases.

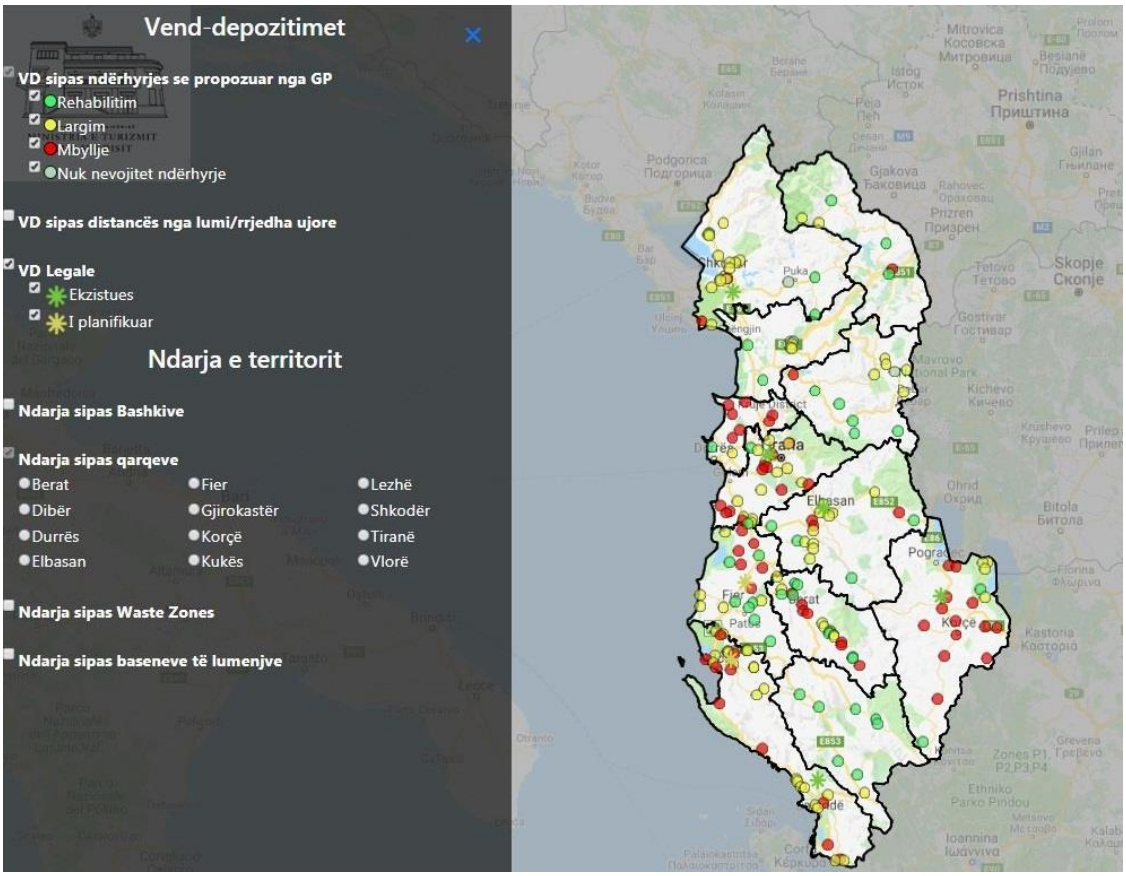


Fig. 4.14 Platform showing "Division according Regions"

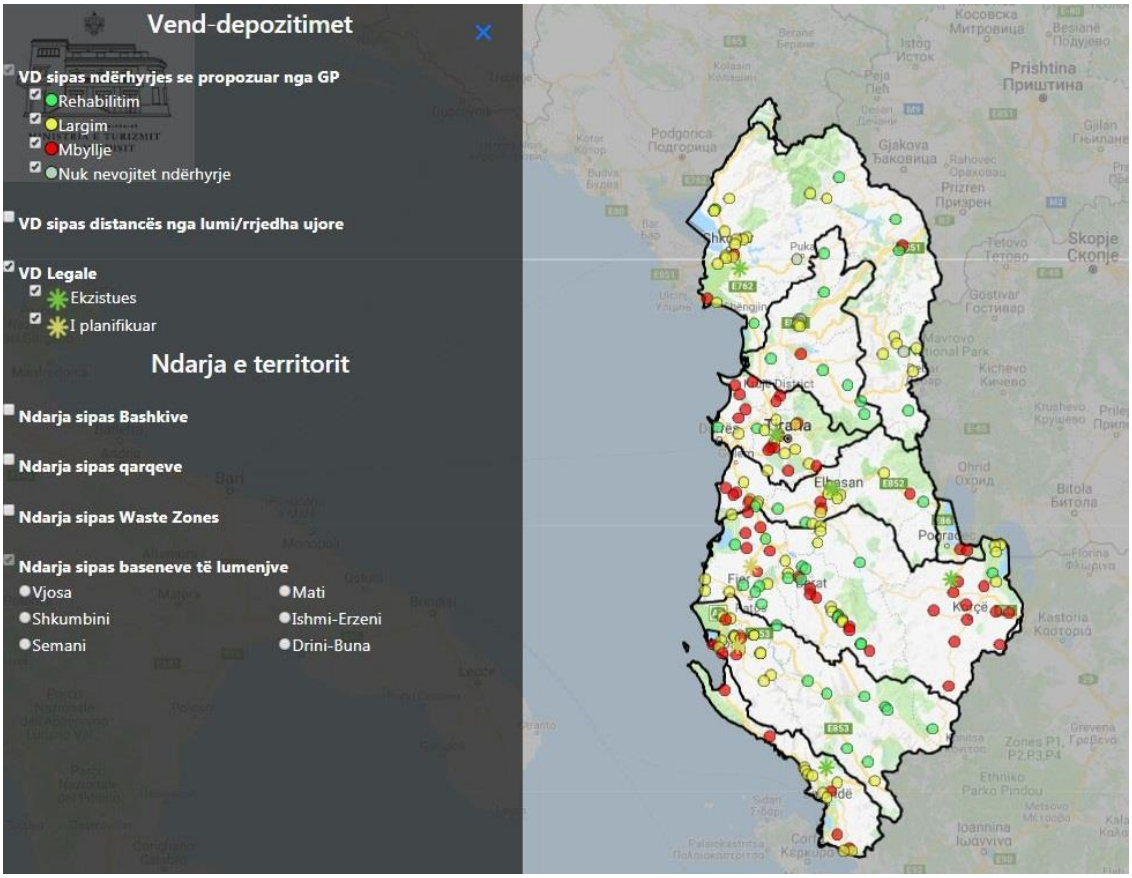


Fig. 4.15 Platform showing "Division according Basins"

Another possibility to filter information is also selecting the option “DS according distance from a river/water stream”. In this case, all the dumpsite dots on the screen appear in red and green, meaning:

- Dumpsite more than 300m distant from river bank, and
- Dumpsite less than 300m distant from river bank.

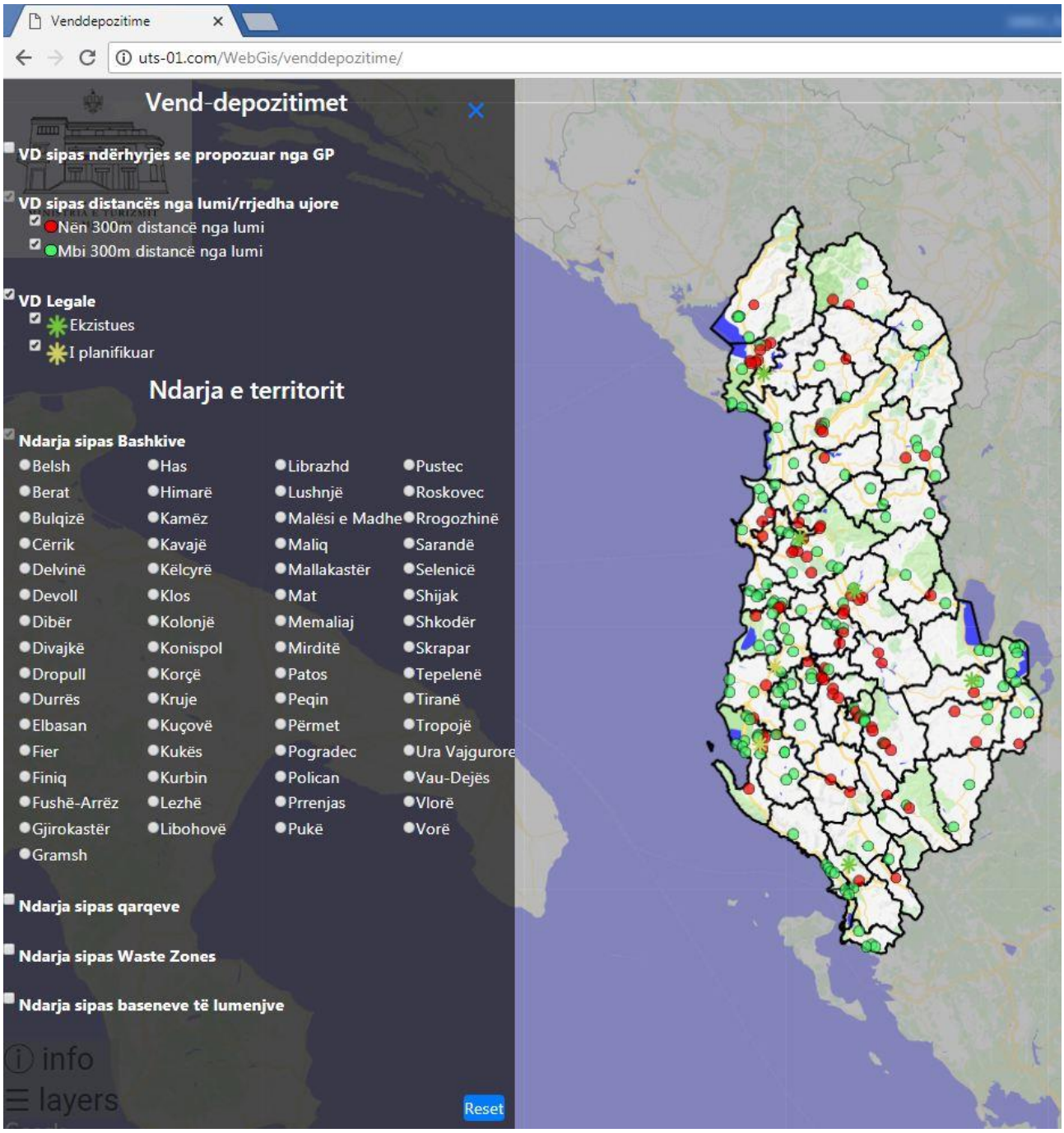


Fig. 4.16 Platform showing dumpsites according river distance criteria

4.4. Introduction at the International Scientific Symposium "Waste Treatment and challenges ahead"

The most important findings of the Initiative "Dumpsite Risk Mitigation" were presented also in the International Scientific Symposium "Waste treatment and challenges ahead" organized in Tirana and Korça, on dates 17-18 May 2018. This symposium was organized from Environment Engineering Department nearby FCE and supported by GIZ Albania, dldp and Netherland embassy in Tirana.

In this symposium were invited two international researchers,

- Prof. Dr. Martin Wittmaier, Director of Energy Recycling and Environmental Protection Institute in Bremen University of Applied Sciences Germany
- Dr. Ljiljana Rodic – Leiden University, the Netherlands, European Commission Expert Evaluation of Research Proposals Horizon 2020

which had the role of the technical evaluation for all the presentations.

During the first day, Mr. Arben Kopliku, (deputy programme manager, dldp) introduced dldp experience of several years in the sector of waste management. For this purpose, with the help of some students of the Environment Engineering Department was prepared a banner themed "Engineering through government", showing some representative information for the dldp commitment at central and local level for this sector.

On the second day of the Symposium, Mr. Rikard Luka, dldp expert, presented the main findings of the Initiative "Dumpsite Risk Mitigation". This presentation consisted of four main aspects:

- a brief description of the methodology and the work performed from the expert groups at local level;
- harmonization of the information and results with the platforms and national strategic tools that are being processed;
- evaluation process from expertise at central level;
- achieved preliminary results and simulated scenarios for different priorities.

After the presentation it was continued with a discussion session with the presents participants, from which it obtained notable consideration for the followed process and for the consistency of the presented results.

In Annex 4, integral part of this Report, is shown a scanned copy of the Symposium Scientific Committee evaluation.

5. Legal background for Initiative "Dumpsite Risk Mitigation"

Recently, MTE through GIZ support, has amended the DCM No. 452 dated 11.07.2012 "For waste landfills". These legal framework changes came from the necessity to fit the developing aspects of our country compared to the high requirements of the legal documentation framework. Some of the main issues are listed below:

- Law "For the integrated waste management" and the DCM No. 452 dated 11.07.2012 "For the waste landfills" foresee a thorough transforming process of the waste existing dumpsites in order to bring them to the proper landfill standards, or their closure in the cases this transformation was impossible;
- The autonomous-local governing units under the time pressure as well as high required standards to implement such transformation have abstained in taking any initiatives assuming impossible this process;
- Approach of the legal framework to bring the dumpsites to landfill standards for period shorter than those foreseen in EU country embers, has yielded an atmosphere where almost there is not any intervention.

In order to fully implement the Directive 1999/31/EC "For waste landfills" and to guarantee the obligations implementation (that are missing), the proposed changes foresee extension of the transitions periods as well as the introduction of an intermediate element in the criteria for the existing dumpsites.

Under this context is assessed and evaluation for the necessary transition period, and also for the minimum technical criteria that should be met from the existing dumpsites.

It is worth mentioning that, part of the changes in the DCM No. 452 are also the foreseen measures to improve the existing situation and also some basic criteria for the operation of these dumpsites., These are fully fitting with those proposes from the Methodology "Dumpsite Risk Mitigation", that has been the guide line of all the technical process.

This way, fully matching with the MTE Initiative "Dumpsite Risk Mitigation", is made possible that today municipalities can achieve certain standards for the waste dumpsites for a transition period, till a sanitary landfill or incinerator is built according the masterplan being elaborated.

6. Conclusions and scenarios

In this chapter are shown the final results of the Initiative "Dumpsite Risk Mitigation" These results, are based on the information collected from working groups at local level and from the evaluation process from the involved institutions at central level and from the consultant company. As mentioned above, the evaluation process was finalized by re-sending the reports again to the municipalities to achieve their confirmation and agreement for the corrections or suggestions made.

As explained above, the introduced results are technically analyzed from different expertise but at the same time have got the municipality agreement.

6.1. Base scenario (Initiative results)

On the base scenario is taken into consideration the decision-making of the municipalities regarding the proposed intervention for each dumpsite (Rehabilitation, Removal or Closure). The following table shows the result at national level related to the number of dumpsites according each intervention type, their respective costs and the average cost estimated as the total cost over dumpsite total. number

Table 6-1 Base scenario results

Intervention type	No. of Dumpsites	Intervention cost (million ALL)	Average value. (million ALL)
Rehabilitation	44	345	7.85
Closure	62	355	5.73
Removal	93	170	1.83
Total	**199**	**870**	**4.38**

The high number of the dumpsites being requested to be removed (almost 50% of the total number) is due to the fact of their location near the river/lake shores.

From the analysis results that the intervention at national level, to mitigate the dumpsite risk, costs 870 million ALL (≈ 7 000 000 €).

In this amount are included only the implementation works of the proposed interventions. By doing an approximate estimation of the technical designs to be elaborated, supervision and commissioning according national standards it results that to implement such interventions it should be considered as well an amount of 61 million ALL (or 500 000€). This amount is equal to 7% of the implementation works value.

It should be considered that costing of the waste removal takes into account the depositing in the nearest rehabilitated dumpsite, mostly within administrative territory of the municipalities. The decision-making trend of the municipalities suggests displacement of the waste in sanitary landfills/plants only in those cases when the dumpsites to be removed

are near these facilities. Worth to mention that in all the cases, in the intervention costs is not included the depositing fee.

Issues that need to be addressed

1. After analysing the municipalities requests to rehabilitate the dumpsites it results that these requests can be divided in 3 main groups:

- 25 Municipalities that do not ask for rehabilitation for any of their dumpsites (municipalities that are near sanitary landfill or near Elbasan incinerator)
- 29 Municipalities that requests rehabilitation for only one dumpsite
- 7 Municipalities that propose rehabilitation for more than one dumpsites

Considering the MTE suggestions, for rehabilitation of only one dumpsite at municipality level, it is need that prior initiating the implementation process to be negotiated with the municipality expert group that are proposing more than one rehabilitation. A special case is Puka municipality, that regardless the Fushë Qarri dumpsite rehabilitation demanded also the dumpsite rehabilitation located at. Gjegjan AU.

2. A thorough analysis it should be done from MTE even in the cases when demanded rehabilitations are located in the proximities of environmental protected areas and to those that affect tourism development (mainly the coastal areas). It should be considered, that in these cases, although not the best economical solution, would be more convenient to close such potentially risky dumpsites, and open e new ones in a more appropriate place.

3. Careful evaluation, it should be made also in those cases when municipalities have available implementation project for the closure of the dumpsites, elaborated from licensed companies before this Initiative started. The costs difference between the Emergency Measures Plan of this Initiative with the amounts from implementation projects have caused disapproval from some municipalities for the proposed measures.

4. Considering the aforementioned case, MTE should confirm the decision to be made with the fewer municipalities that have not define clearly their agreement with the proposed measure of this Initiative.

Following, the dumpsite map for the proposed intervention according municipalities.

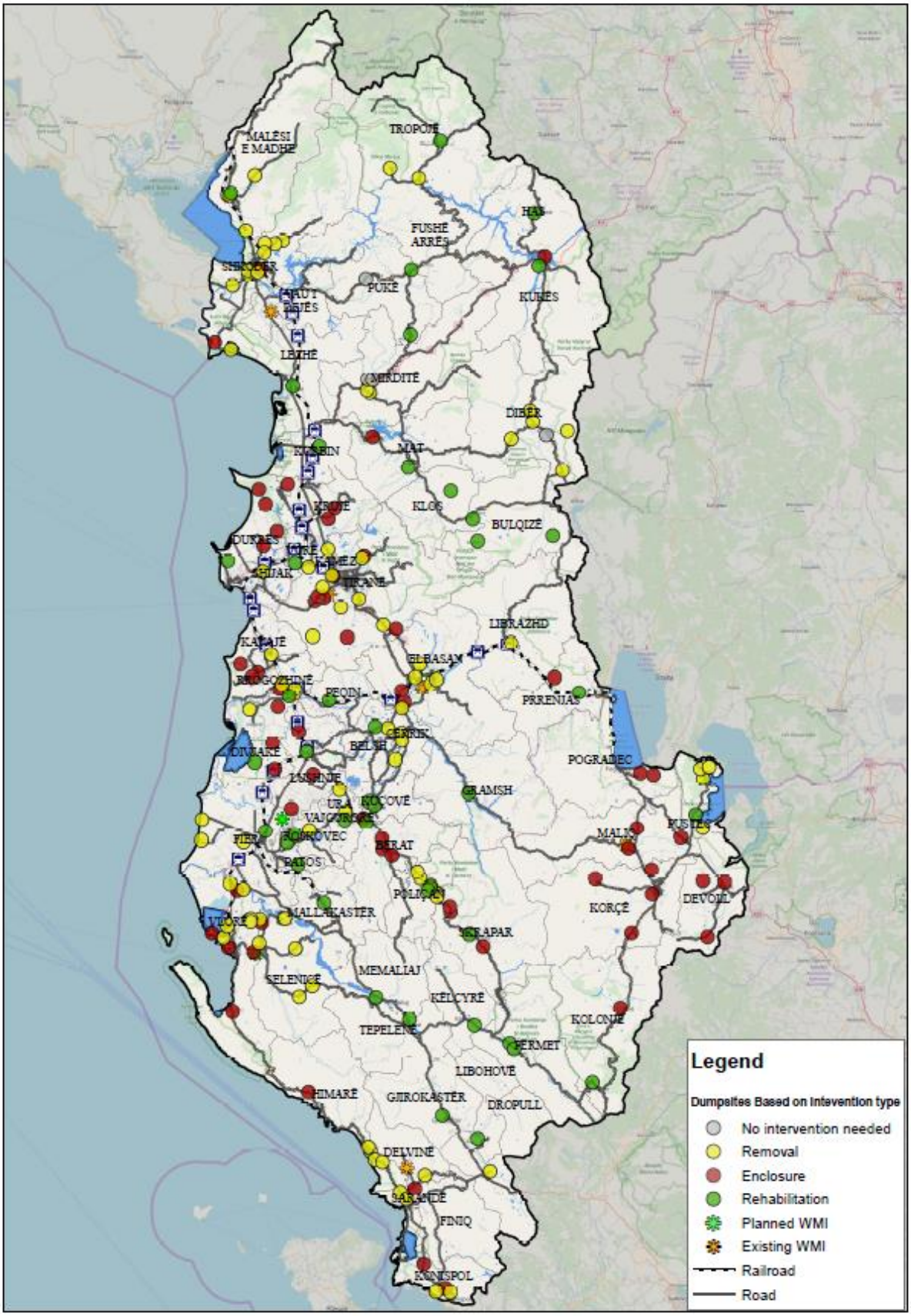


Fig. 6.1 Base scenario intervention map

6.2. Several scenarios

The interventions scenarios elaborated under the framework of this platform are mainly based on the priorities of the Ministry of Tourism and the Environment, but also on the main issues that dumpsites exhibit regarding the:

- Environmental risk by focusing on protected areas;
- Protection of rivers;
- Influence in tourist areas by focusing on the coastal areas

It is clear that the defined priorities are complementary to each other and have a major impact on improving the quality of life for the population and the economic development of the country, thus assessing the role that tourism development plays in the national economy.

During this assessment, in order to be as close to reality, to elaborate priority intervention scenarios a series of data was used such as:

- Existing road network[19];
- Railway network[20] by considering active routes for the transport goods trains and train stations spread throughout the country;
- Coastal zone with priority tourism development defined by PINS Coast[21];;
- Map of the Protected Areas[22] stated as such with DCM.

Considering these areas of national importance, in the elaborated scenarios, the interventions measures on-these dumpsites always were either: Closure or Waste Removal. Thus, in no case is specifically foreseen the rehabilitation of a dumpsite within a defined national priority area for improvement of the environmental condition.

Regarding the estimation of the works costs, for the aforementioned interventions, prices and analyses are based on the 2015 prices Manual.

Throughout the report, the results of each of the scenarios are presented at the national level, giving some of the key elements that are considered during cost estimation as well as some major issues that may be encountered at the implementation stage.

These scenarios and analysis are compiled from the consulting company in close cooperation with MTE's technical staff. Besides Scenario 1, the other ones do not take into account municipal decision-making concerning the intervention on the dumpsites.

[19] Information sources are ASIG and Google MAP.
[20] Information sources are ASIG and 2017 Annual Report 2017 of the Directorate of Railway Inspection subordinate of MIE (http://dih.gov.al/).
[21] According to the definitions on NTC Decision No.02, date 14.06.2016 "For the approval of Intersectoral Integrated Plan for Coastal Zones".
[22] Information sources is National Institute for Protection Areas: (http://akzm.gov.al/harta-digitale).

6.2.1. Scenario 1 - Waste removal towards Elbasan ITM through railway

In this scenario, waste removal is estimated by using the railway network for all dumpsites that municipalities have requested as an intervention measure: Waste Removal. It is implied that the number of dumpsites considered for this case is consistent with that of the base scenario, i.e. according to the municipalities decisions (93 dumpsites).

Scenario 1
93 Dumpsites to be removed to ITM Elbasan
Cost: **220 500 000 ALL**

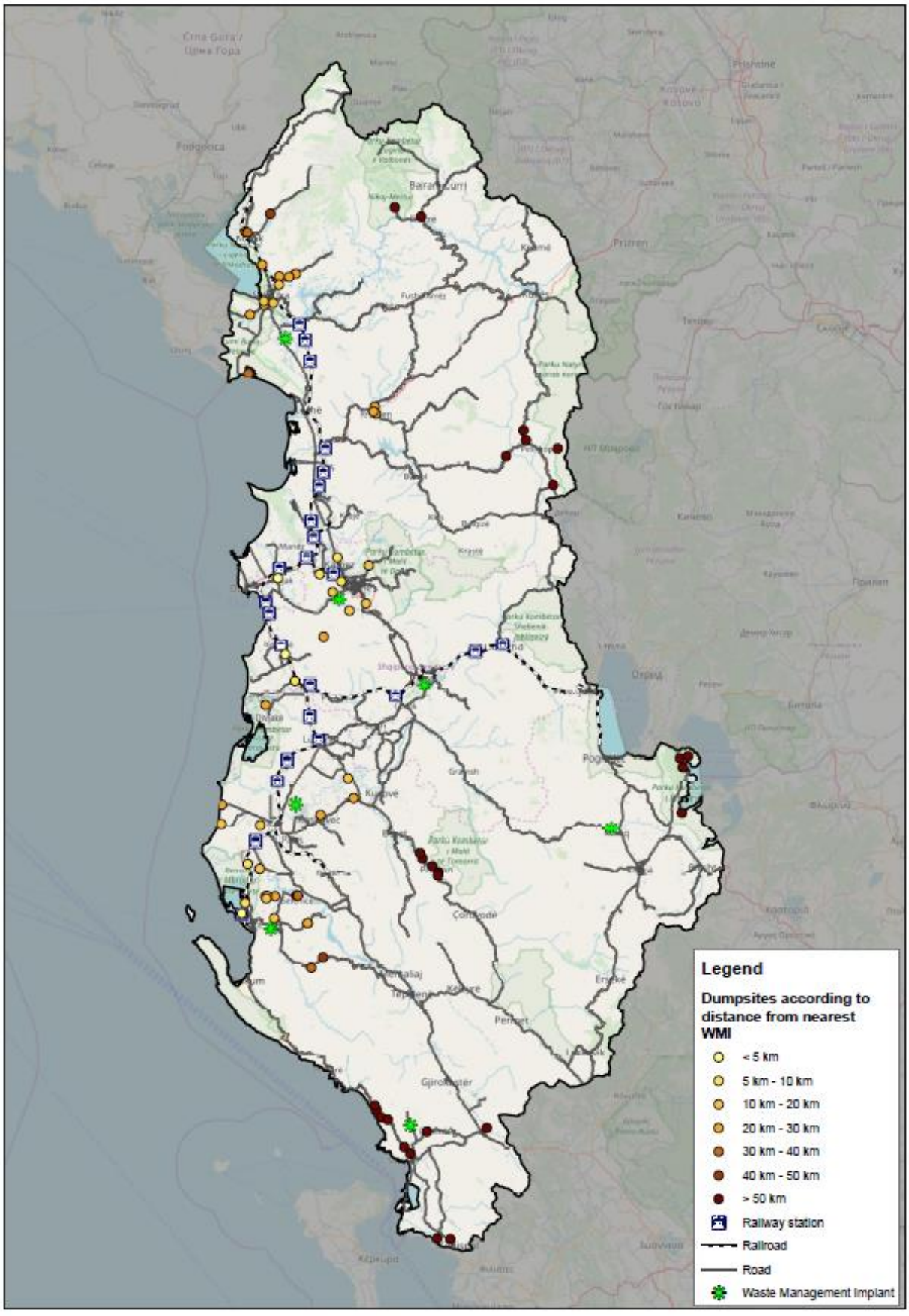
Following are given the assumptions made during cost estimation of this intervention at the national level and some issues that may arise during the implementation phase of this scenario.

Assumptions:

- The rail network is fully functional. From the official communication it was stated that all the itineraries are operational for the transport of goods;
- In the cost estimation of this intervention at the national level, the cost of rail transport is not included;
- It is not considered the deposit fee at ITM-Elbasan;
- In those cases where the road distance from the dumpsite to ITM Elbasan is shorter than the nearest train station, then usage of the roadway is considered (the case of dumpsites within the territory of Elbasan municipality or neighboring municipalities in some cases).

Issues:

- The scenario is based on a combined road and rail transport and implies several waste load and unload processes that pose a risk to the engaged personnel and further pollution to the areas where these processes would be conducted. In order to partially avoid this problem, temporary aiding works might be necessary to the train stations such as building temporary platforms where it can be unloaded directly from the truck to the wagon;
- In order this process to be viable, a minimum 200 tones of waste should be loaded in so that the train can initiate transportation;
- During this scenario implementation there is the possibility of jeopardizing train stations to be temporarily transformed to "waste transfer stations";
- The proximity of train stations to residential areas can cause inconvenience to the peripheral neighborhoods near these stations and also their pollution;
- There is no clear assessment of the suitability of waste that is sent for incineration. Organic waste has a high humidity percentage and is not worth to be transported.
- Some of the dumpsites are more than 50km away from the nearest station.


Legend
Dumpsites according to distance from nearest WMI
< 5 km
5 km - 10 km
10 km - 20 km
20 km - 30 km
30 km - 40 km
40 km - 50 km
> 50 km
Railway station
Railroad
Road
Waste Management Implant

6.2.2. River protection

The territory of our country is crossed by a dense river network, which in the upper streams have a mountainous feature with rapid flow and great erosion force, while the lower streams it has a field character. Apart from the Bistrica River that flows into the Ionian Sea, all other rivers flow to the Adriatic Sea.

This hydrographic network consists of 11 main rivers (see Table 6-2), which flow by and in some cases cross the main urban centers of the country.

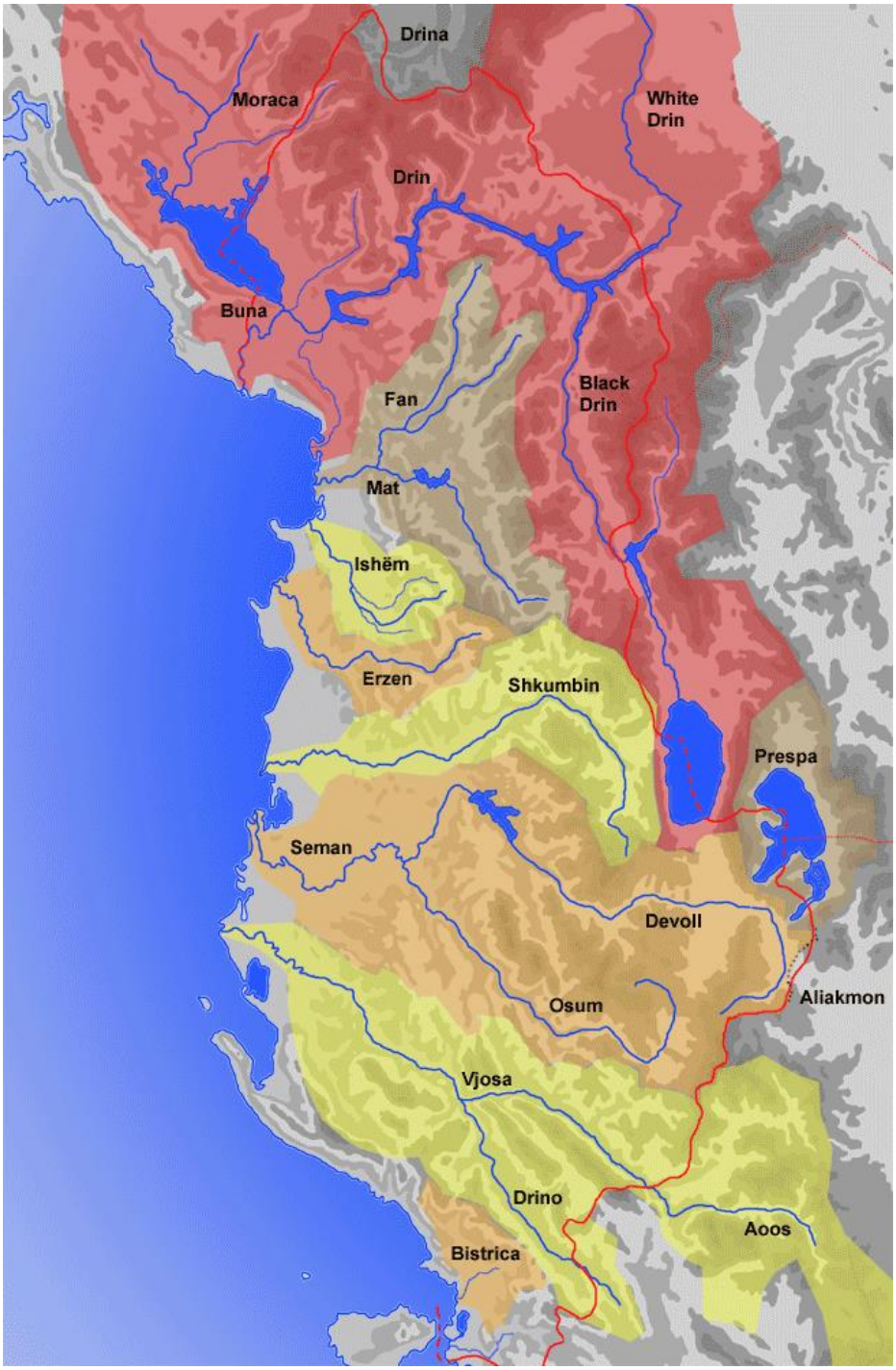


Fig. 6.2 Map of Albania's main river basins (water collector ponds)

Table 6-2 List of Albanian rivers

River	Length (km)	Derives from	Flow into
Bistrica	25	Gjerë mountain	Jonian Sea
Buna	44	Shkodra Lake	Adriatik Sea
Cemi	63	Berizhdoli Source	Moraça River
Drini	285	from Drini i Bardhë and Drini i Zi River	Adriatik Sea
Drini i Bardhë	175	Mountains of Zhlebit, Radavc (Pejë, Kosove)	Drini River
Drini i Zi		Shën Naumi (Ohri Lake)	Drini River
Kiri	52	Elbuni crown	Drini River
Shala	35	Okol	Drini River
Valbona	51	Bjeshkët e Nemuna	Drini River
Erzeni	108	Near Shëngjergj	Adriatik Sea
Ishmi	74	Merging of Tiranës River, Tërkuza and Zeza stream	Adriatik Sea
Lana	29	Qafë Priskë, west side of Dajti (branch Tirana river)	Ishmi River
Tirana	10.2	Dajti mountain	Ishmi River
Mati	115	Kaptinë mountain, near Krasta	Adriatik Sea
Fani	94	from Fan i Vogël and Fan i Madh	Mati River
Semani	85		Adriatik Sea
Devolli	196	Albanian side of Gramozi	Semani River
Osumi	161	Near Vithkuqi	Semani River
Shkumbin	181	South of Pogradeci	Adriatik Sea
Vermosh	220	Shqipëri-Mali i Zi boundary	Plava Lake
Vjosa	272	Pindi mountain (Greqi)	Adriatik Sea
Drino	84.6	North of Janina	Vjosa River

Based on the Environmental Situation Report (2016), almost all of the rivers in Albania present high levels of pollution. It should be noted that in their analysis, Environmental National Agency classifies river waters in five categories, based on several specific control parameters, not only affected by the presence of illegal dumpsites but also other factors (such as waste water discharges that occur near the rivers, etc.). In the following map, is shown the rivers pollution level based on monitoring stations placed for that purpose.

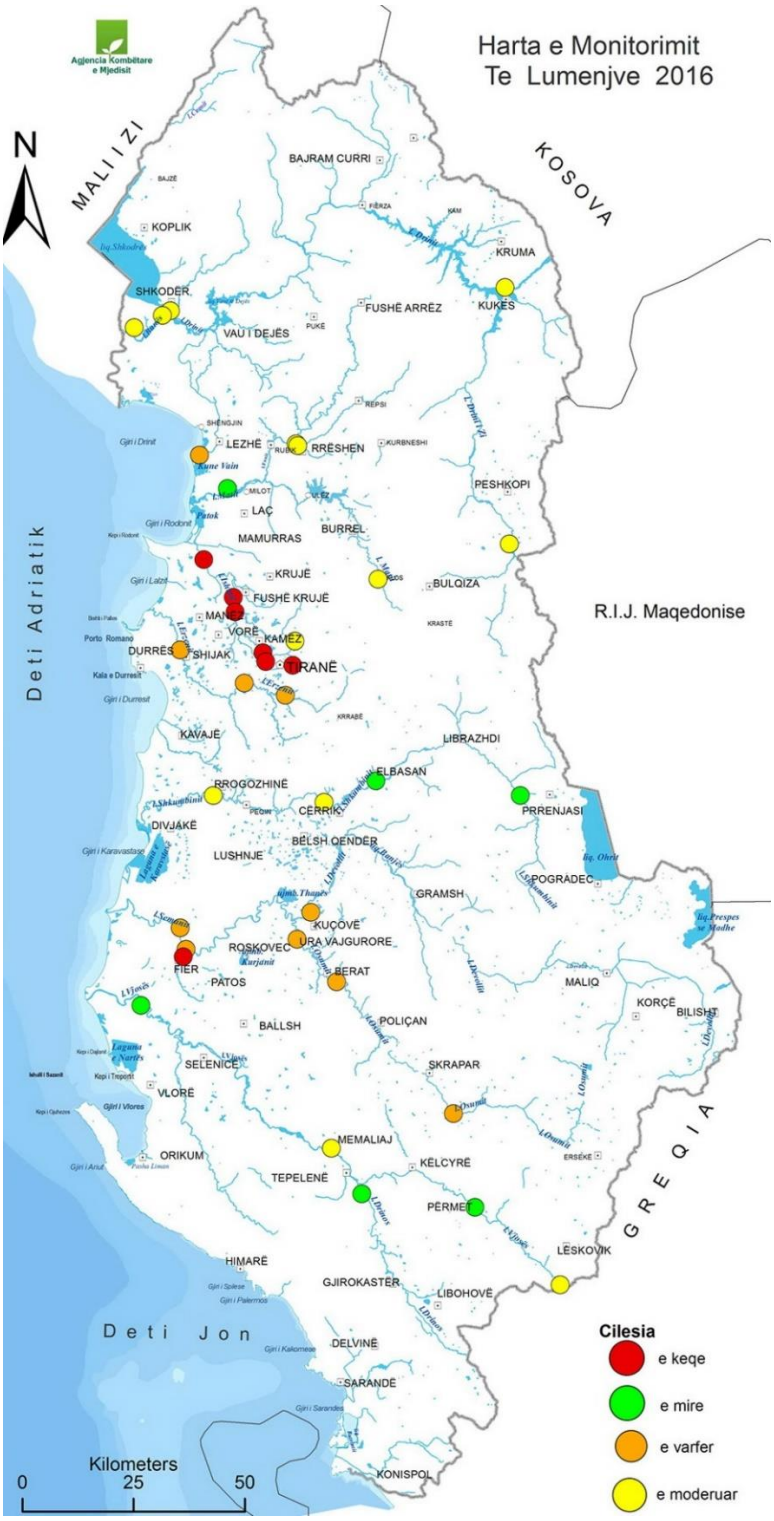


Fig. 6.3 River monitoring map, year 2016 (source NAE)

6.2.3. Scenario 2 - Intervention on rivers

In this scenario, waste removal is considered for all dumpsites located within a distance of 0-300 m from the river beds, including those that the municipalities have recommended for this intervention measure: Waste removal. It should be kept in mind that the local working groups have recommended this intervention mainly for dumpsites situated near the rivers and therefore their inclusion (93 DS) in this scenario is fully matching the approach of this priority intervention. These dumpsites inclusion also reinforces the support of this scenario concerning the proposals coming from local working groups nearby municipalities.

From the analysis, for each case, it turns out that we have 130 such dumpsites. The difference of 37 additional dumpsites comes from inclusion in this scenario of:

- 12 dumpsites that Municipalities have recommended Rehabilitation but that according to the scenario should be removed;
- 25 dumpsites that municipalities have recommended Closure but that according to the scenario should be removed.

In the following is given a list of dumpsites that according to local working groups is recommended for Rehabilitation, but in fact are included in this scenario as they are at a distance (0-300 m) from the river.

No.	Municipality	Dumpsite name
1.	Gramsh	Mashan
2.	Ura Vajgurore	5- 28 Nentori neighborhood
3.	Kuçova	former Farm Partizani
4.	Poliçan	3- Plirez neighborhood
5.	Tepelena	Majkosh
6.	Memaliaj	Cepi i Janinave
7.	Këlcyra	Variboh
8.	Përmet	Varrezat Publike
9.	Fier	Teodor II Muzaka
10.	Fushë Arrës	Kthesa e Krrabit
11.	Rrogozhina	DS 1 - former MUD
12.	Skrapar	Çorovodë 1

Regardless of whether this scenario is implemented or not, it is worth pointing out that the final intervention in these 37 dumpsites requires a deep technical assessment before its implementation.

Based on this analysis, two sub-scenarios were elaborated, depending on the waste destination:

• Scenario 2.1 - Waste is sent to ITM Elbasan using railway;

• Scenario 2.2 - Waste is sent to the nearest sanitary landfill (including ITM Elbasan) using road infrastructure. As sanitary landfills are accepted: Bushat (Shkodër), Sharra (Tirana), Maliq (Korça) and Bajkaj (Delvina)

Scenario 2.1

As mentioned above, this scenario provides the waste removal from 130 landfills and their delivery by railway to ITM Elbasan.

Scenario 2.1
130 Dumpsites will be removed towards ITM Elbasan, using railway
Cost: **323 000 000 ALL**

Similar to scenario 1, in the following are given some assumptions made during cost assessment of this intervention at the national level and some issues that may arise during the implementation phase of this scenario. It is worth mentioning that the dumpsites shown in the table above are the main ones in those municipalities where there is a large waste volume. Thus, their removal process requires careful technical assessment, as the environmental impact and the risks arising during this process are high.

Assumptions:

- The rail network is fully functional. From the official communication it was stated that all the itineraries are functional for the transport of goods;
- In the cost estimation of this intervention at the national level, the cost of rail transport is not included;
- It is not considered the deposit fee at ITM-Elbasan;
- In those cases where the road distance from the dumpsite to ITM Elbasan is shorter than the nearest train station, then usage of the roadway is considered (the case of dumpsites within the territory of Elbasan municipality or neighboring municipalities in some cases).

Issues:

- The scenario is based on a combined road and rail transport and implies several waste load and unload processes that pose a risk to the engaged personnel and further pollution to the areas where these processes would be conducted. In order to partially avoid this problem, temporary aiding works might be necessary to the train stations such as building temporary platforms where it can be unloaded directly from the truck to the wagon;
- In order this process to be viable, a minimum 200 tones of waste should be loaded in so that the train can initiate transportation;
- During this scenario implementation there is the possibility of jeopardizing train stations to be temporarily transformed to "waste transfer stations";

- The proximity of train stations to residential areas can cause inconvenience to the peripheral neighborhoods near these stations and also their pollution;
- There is no clear assessment of the suitability of waste that is sent for incineration. Organic waste has a high humidity percentage and is not worth to be transported.
- Some of the dumpsites are more than 50km away from the nearest station.

Scenario 2.2

This scenario foresees the waste removal from 130 dumpsites and their delivery to the nearest sanitary landfill using the road infrastructure. As sanitary landfills are accepted: Bushat (Shkodër), Sharra (Tirana), Maliq (Korça) and Bajkaj (Delvina). In the analysis it is also included the waste removal towards ITM Elbasan.

Scenario 2.2
130 Dumpsites will be removed towards ITM Elbasan, using road infrastructure
Cost: **`400 200 000 ALL**

In the following are listed some of the assumptions made during cost estimation of this intervention at the national level and some issues that may arise during the implementation phase of this scenario. It is worth mentioning that the dumpsites shown in the table above are the main ones on those municipalities where there is a large waste volume. Thus, the removal process requires careful technical assessment, as the environmental impact and the risks arising during the process are high.

For the elaboration of this scenario, a comparative assessment analysis was conducted to determine the nearest sanitary landfill related to each dumpsite taking into considering the existing road infrastructure.

An advantage of this scenario is that there is only one loading and unloading process

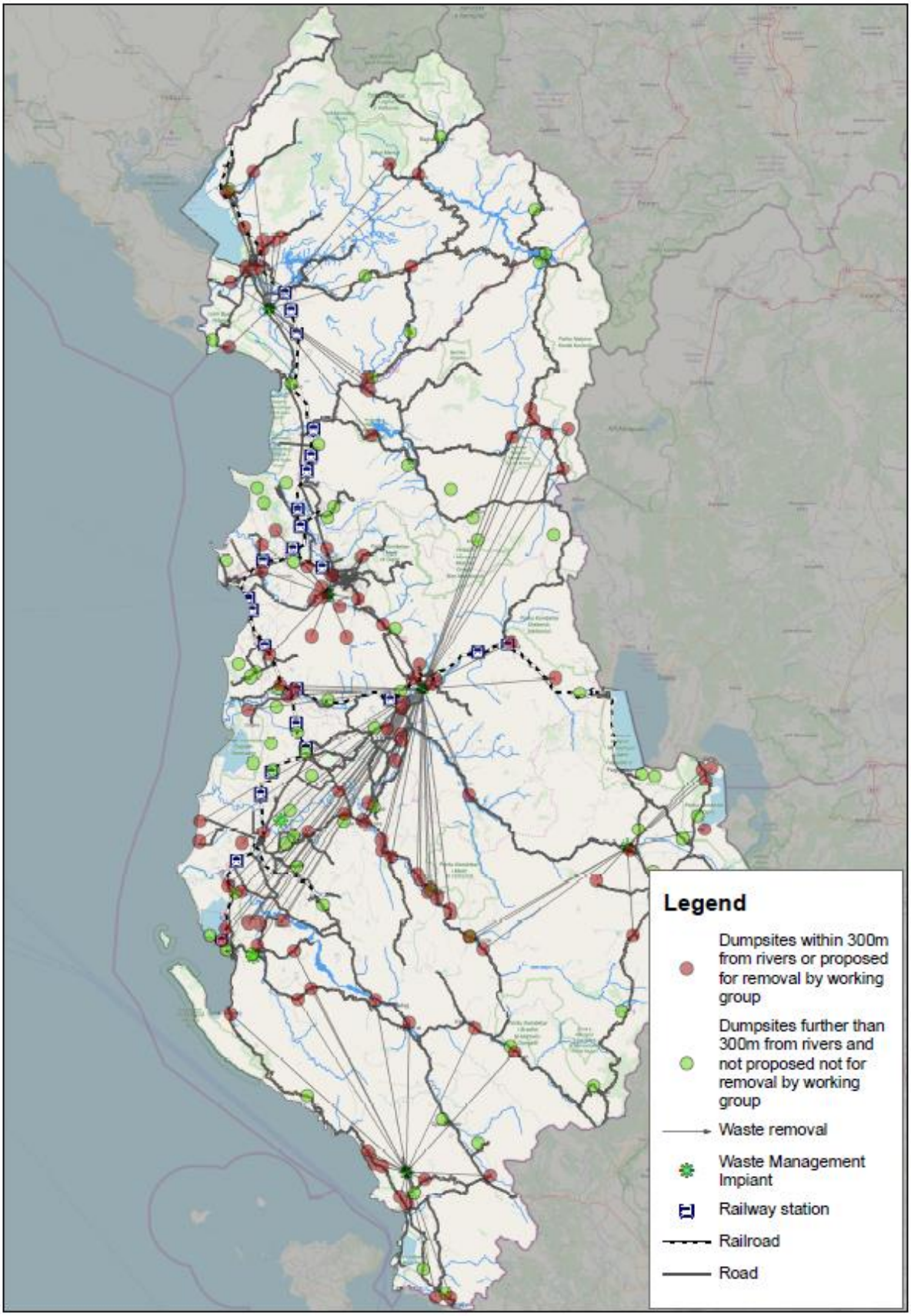
Assumptions:

- Waste transportation is made by common dump trucks and cost estimation is done according paragraph 4.3.4;
- The deposit fee in sanitary landfills and ITM-Elbasan is not considered.

Issues:

- There is no clear assessment of the suitability of waste that is sent for incineration. Organic waste has a high humidity percentage and is not worth to be transported;
- The waste amount that will be deposited is considerable and can exhaust most of the capacity of sanitary landfills;
- Sharra Landfill (Tirana) has reached its closure phase and new Incinerator is expected to be built.

The following is a schematic map for this scenario.


Legend
Dumpsites within 300m from rivers or proposed for removal by working group
Dumpsites further than 300m from rivers and not proposed not for removal by working group
Waste removal
Waste Management Impiant
Railway station
Railroad
Road

6.2.4. Scenario 3 - Intervention on the Protected and Coastal Areas

Based on the National Strategy-draft for Sustainable Tourism Development 2018-2022, tourism is seen as a strategic sector through which Albania can achieve sustainable long-term growth and competitiveness by ensuring effective environmental protection.

Scenario 3, is based precisely on this mutual relationship that environmental protection and development of tourism has in our country, but not only.

In this scenario, are considered the dumpsites situated within the Protected Environmental Zones (defined by the DCM) and according to the NAPA official map as well as those within the coastal belt with priority tourism development set forth in PINS Coast. From the analysis it turns out that within these areas of national importance we have 35 dumpsites that require special attention.

Considering emergency intervention those that are requested in priority areas, the municipality's recommendation was accepted and the cost of the intervention was assessed by summing up the estimated amounts in collaboration with the Local Working Groups.

Scenario 3
35 Dumpsites that will be rehabilitated, closed or removed according to municipalities proposals
Cost: **205 000 000 ALL**

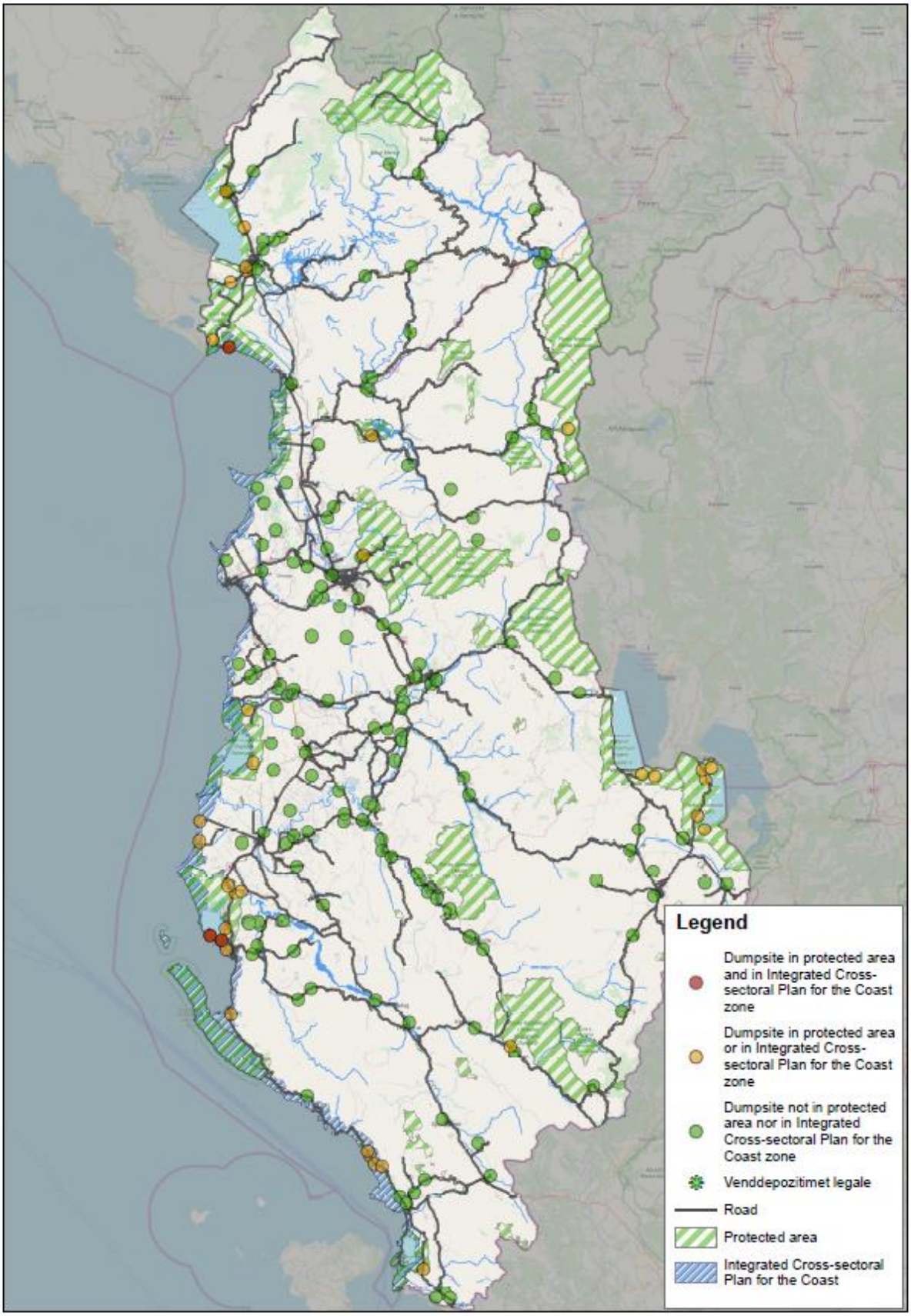
Assumptions:

- The municipality's proposals are accepted as intervention measures on dumpsites;

Issues:

- The particular problem of this scenario consists in the cases where the municipalities, having no other choice, requested the Rehabilitation of dumpsites within a protected area or the coastal belt. Thus, demanding usage extension of these infrastructures for up to a 3-5-year period, till an adequate solution fitting the National Waste Management Plans is implemented.

The following is a schematic map for this scenario.


Legend
Dumpsite in protected area and in Integrated Cross-sectoral Plan for the Coast zone
Dumpsite in protected area or in Integrated Cross-sectoral Plan for the Coast zone
Dumpsite not in protected area nor in Integrated Cross-sectoral Plan for the Coast zone
Venddepozitimet legale
Road
Protected area
Integrated Cross-sectoral Plan for the Coast

7. Dumpsites at Region level

7.1. Preface

Based on the Law " On Local Self-Government"[23], local governing units in the Republic of Albania are Municipalities and Regions. According to this law's provisions, Municipality is a basic local autonomous unit which represents an administrative-territorial unity and a people's community. While County is a second level local autonomous unit representing an administrative-territorial unity composed from several Municipalities that are connected through geography, traditions, economy, social and common interests. County boundaries fit with its composing Municipality boundaries. County/Municipality center, its territory expending and name are defined by law[24].

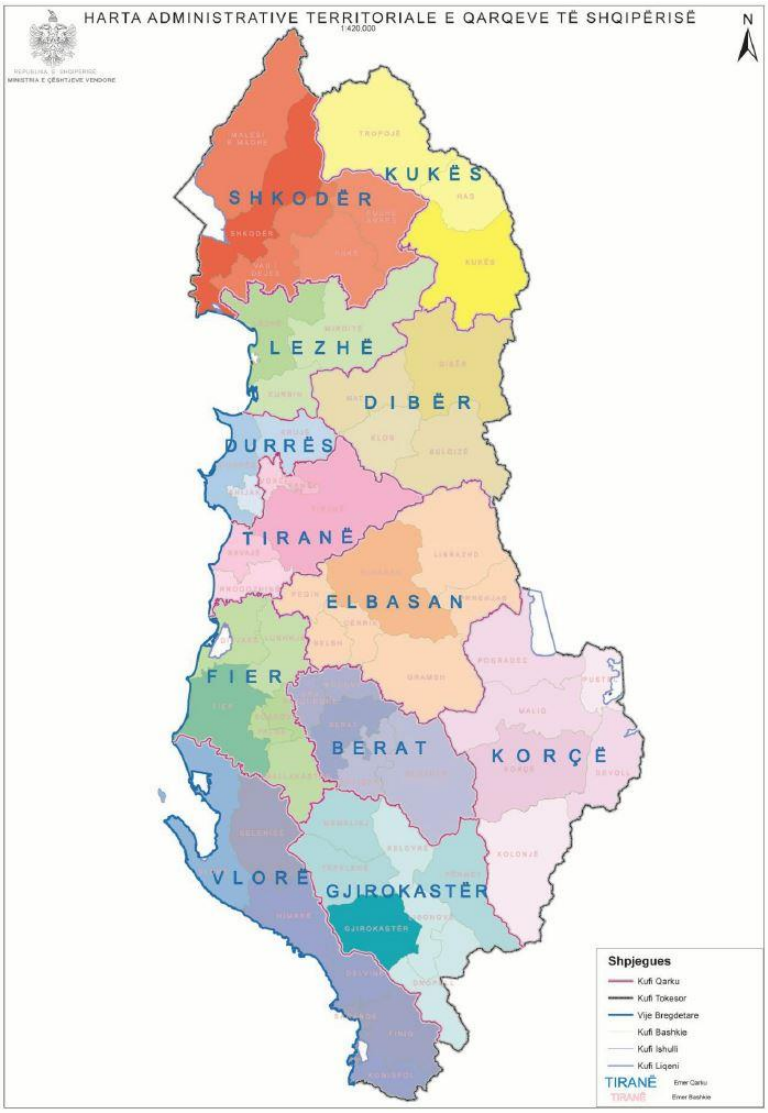


Fig. 7.1 Regional map of Albania (according Law No. 115/2014)

[23] Law No. 139/2015 "On Local Self-Government", approved

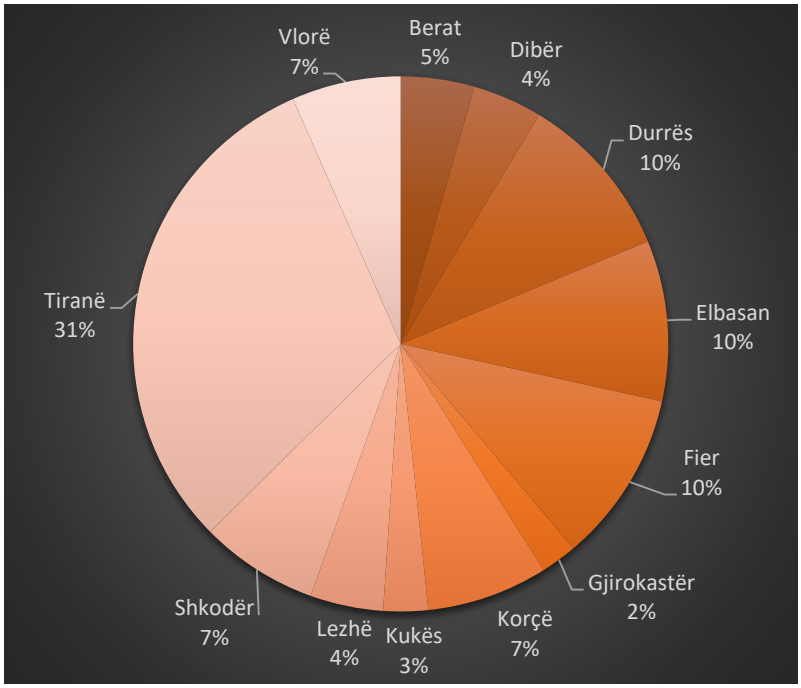
[24] Law No. 115/2014 "For the administrative-territorial division of the local governing units in the Albanian Republic"

Based on INSTAT official data, from the population estimated until 1st January of 2018 it is noticed that only at three regions there is a population increase compared to the previous year, while the remaining nine had a decreased population number. The biggest increase was noticed in Tiranë (+25,1 per 1000 inhabitants), followed by Durrës (+16,9 per 1000 inhabitants) and Vlorë (+2,15 per 1000 inhabitants).

The biggest decrease was noticed in Gjirokastër (-45,3 per 1000 inhabitants), Dibër (-36,6 per 1000 inhabitants) and Berat (-34,2 per 1000 inhabitants).

Table 7-1 Population according Regions (source INSTAT 2018)

Nr.	County	Population
1	Berat	127,431
2	Dibër	120,978
3	Durrës	289,628
4	Elbasan	278,547
5	Fier	298,144
6	Gjirokastër	62,952
7	Korçë	210,178
8	Kukës	77,394
9	Lezhë	126,800
10	Shkodër	204,994
11	Tiranë	883,996
12	Vlorë	189,282
	TOTAL	**2,870,324**



Based on the Waste National Strategy (2011)[25], territory of our country is divided in 12 Waste Areas according to geographical boundaries of the existing regions. It's necessary to clarify that regardless of the RAT approval in July 2014, the region boundaries have not changed and consequently the Waste Areas are based on the respective border lines. Based on these Waste Areas and stating the necessity to fully take into account the circumstances and local conditions, the best solutions for waste management throughout the country needed to be identified.

7.2. State of dumpsites for each region

Along this chapter, is given a general description of the waste management system for each County. The presented information is a synthesis of all gathered data from the Working Groups at local level, improved further through commentary, corrections and measures

[25] Approved by VKM Nr.175, dated 19.01.2011 "For the approval of National Strategy for waste management and of National Plan for waste management"

costing of the environmental risk mitigation from the engaged consulting company for the validation of the process.

In order to give the clearest picture over the existing situation on each County, here is given information also for the sanitary facilities of the waste management, built up recently. These facilities have not been subject of data collection from local working groups, because regardless of their shown issues on some cases they still are classified as legally constructed dumpsites according to the standards tat are foreseen from the legal framework in force.

On the summary tables for each County, there are given 4 main data:

- Municipality where is located the dumpsite;
- Name of the dumpsite;
- Proposed intervention;
- Intervention cost.

Concerning the *name of the dumpsite* it is maintained the same as that referred from the Working Groups in order to avoid any misunderstandings considering the fact that several expertise groups were involved in the process (Regional coordinators, MTM coordinators, dldp expertise, etc.).

The same applied to the *proposed intervention,* (rehabilitation, removal or dumpsite closure), that is maintained the kind proposed from the municipality.

Regarding the *Cost of the intervention* we clarify the following:

- In the cases where Working Groups at local level have elaborated an intervention plan and took into account all the referred measures as per Methodology, the referred amount was kept the same with the one proposed from the Working Groups (this is the case when Working Groups had in their team proper expertise and have fully understood the Methodology for the Risk Mitigation on the Dumpsites).
- In the cases where Working Groups at local level have not elaborated an intervention plan and took into account only some technical measures (for example only fencing of the dumpsite), the referred amount is based on the BoQ elaborated from the experts involved from dldp.
- In those cases when different expertise supported from foreign donators (GIZ, Eptisa) have foreseen specific planning for certain dumpsites, on the summary tables are referred the amounts proposed from this expertise. In order to unify the intervention measure for the respective cost estimations according to the accepted Methodology, Ministry of Tourism and Environment has lead a coordination process for all the parties involved.

Regarding the process of costing of the intervention measures for the risk mitigating it should be considered that:

- Costing is based on prices manuals (year 2015), approved by DCM No. 629, dated 15.07.2015 "For the approval of technical manual prices and their technical analyses";
- Referred prices on the summary tables for each County include VAT because the standard model for BoQ elaboration foresees it.
- Regarding the quantities calculations and their costings, the consultant company engaged from dldp did not make any changes on those cases when Working Groups at local level performed site measurements and based on those elaborated an accurate BoQ.
- In those cases when Measures Plan and costing have been partial or missing, the consultant company engaged from dldp has elaborated them based on the documents attached to the report, that gave an approximate surface or volume of the existing waste on the dumpsite (property certificates, sketches attached to the Municipalities Decision or Region Councils, etc.). In order to define a coefficient that reflects the nearest actual state possible for the volume calculation, in all the cases this process was verified also through aerial photos made available from the GeoPortal of ASIG[26] or at any other platform having recent updated orthophotos.
- The most problematic cases for volume calculations accuracy were the dumpsites located near the rivers because often it resulted that the waste volume decreases considerably during the winter season, when the inflows are raging and increases during the drier seasons as river flow is at its lowest. In some cases, this can be seen clearly even on orthophotos taken at different times of the year.

On the summary tables for each Region are included as well the dumpsites referred at the elaborated platform from the former MUD (actually administered from MIE), but they are not mentioned from the Working Groups at local level.

[26] https://geoportal.asig.gov.al/

7.3. Shkodra Region

Bushat sanitary landfill is located in Shkodra Region and approved by TRCAR Decision No. 3, dated 22.05.2007 "For the approval of construction site and construction permission for the Works "Regional dumpsite of urban wastes, at Bushat Municipality"" According to the technical parameters, this landfill:

- Serves to a population of approximately 200 000 inhabitants (covering the needs of Lezha and Shkodra Regions).
- Is designed to have a service lifetime of the landfill extends to 20 years.
- Has a depositing rate of waste quantities of 130 tons/day.

Fig. 7.2 Bushat landfill view

Regardless of the fact that Bushat sanitary landfill has the infrastructure to manage the differentiated treatment of waste to extract the recyclable ones, actually at this landfill occurs only the depositing and compaction process. The storm waters irrigation network manages and removes them from the dumpsite area, but the cleaning plant destined to clean this irrigation system is not functional. As a consequence, the leachates are flushing sometimes on the septic pits system creating a potential hazard for the environment. Actually, the landfill has entered the maturing phase for the quantity of methane gas (CH_4), which has started to be collected from two wells and further burned outdoors.

Actually, in Bushati regional landfill are depositing the urban waste only Shkodra and Vau i Dejës municipality, while the rest of the region: Malësi e Madhe, Pukë and Fushë Arrës continue to use illegal dumpsites.

The main issue that Municipality governing entities do not deposit their waste on the Bushati landfill, is not being able to cover the transport costs. Considering the actual road

infrastructure network, it comes out that the distances from the center cities of municipalities Malësi e Madhe, Pukë and Fushë Arrës from the landfill are:

Table 7-2 Distance from Bushati landfill

Municipality	Center city	Distance from Bushati landfill	Distance from actual used dumpsite
Malësi e Madhe	Koplik	35.4 km	2.5 km
Pukë	Pukë	52.5 km	4.0 km
Fushë Arrës	Fushë Arrës	74.2 km	5.0 km

Following it is given a general description of waste management for each of the Shkodra County cities.

Shkodra Municipality: collects approximately 32 018 ton/year[27] of urban waste which are deposited on Bushati landfill. From this waste quantity, approximately 28 000 ton are coming from Shkodra city that is also the main urban center of the municipality (approx. 60% of municipality population is concentrated on the city area). Based on the data from Local Planning for Integrated Solid Urban Waste Management 2017-2022 (elaborated with dldp assistance), Shkodra Municipality results that the best performance for offering this service is within Shkodra city, covering almost 90% of the area. While the remaining administrative units have an average covering of their areas with this service varying to 50-70%. More problematic Administrative Units are Shalë, Pult and Shosh whereas this service is missing because of greater distances and road infrastructure conditions.

Data referred by the Working Group:

It is for some years now that the old field for urban waste of Shkodra city nearby Varrezave të Dëshmorëve, is not being used but its actual environmental conditions are not good at all. Its proximity with inhabited city areas but at the same time with Kir river consists a great environmental danger. From year 2009, Shkodra Municipality assisted from foreign consultants has elaborated a Project for the improvement and closure of this dumpsite but still this Project remains unfinanced. According to the proposed BoQ altogether with the implementation project its amount goes to 227 075 285 ALL. This amount is considerably raised from the special engineering measure to prevent Kir river pollution.

The amount shown on the Table 7-3, for this dumpsite is times smaller because there are foreseen only measures from the Methodology for the Dumpsite Risk Mitigation.

All the other referred dumpsites are mainly small waste depositing spots that served for certain communities, mainly Shkodra suburbs ones.

[27] Waste quantities refer to the data from year 2016

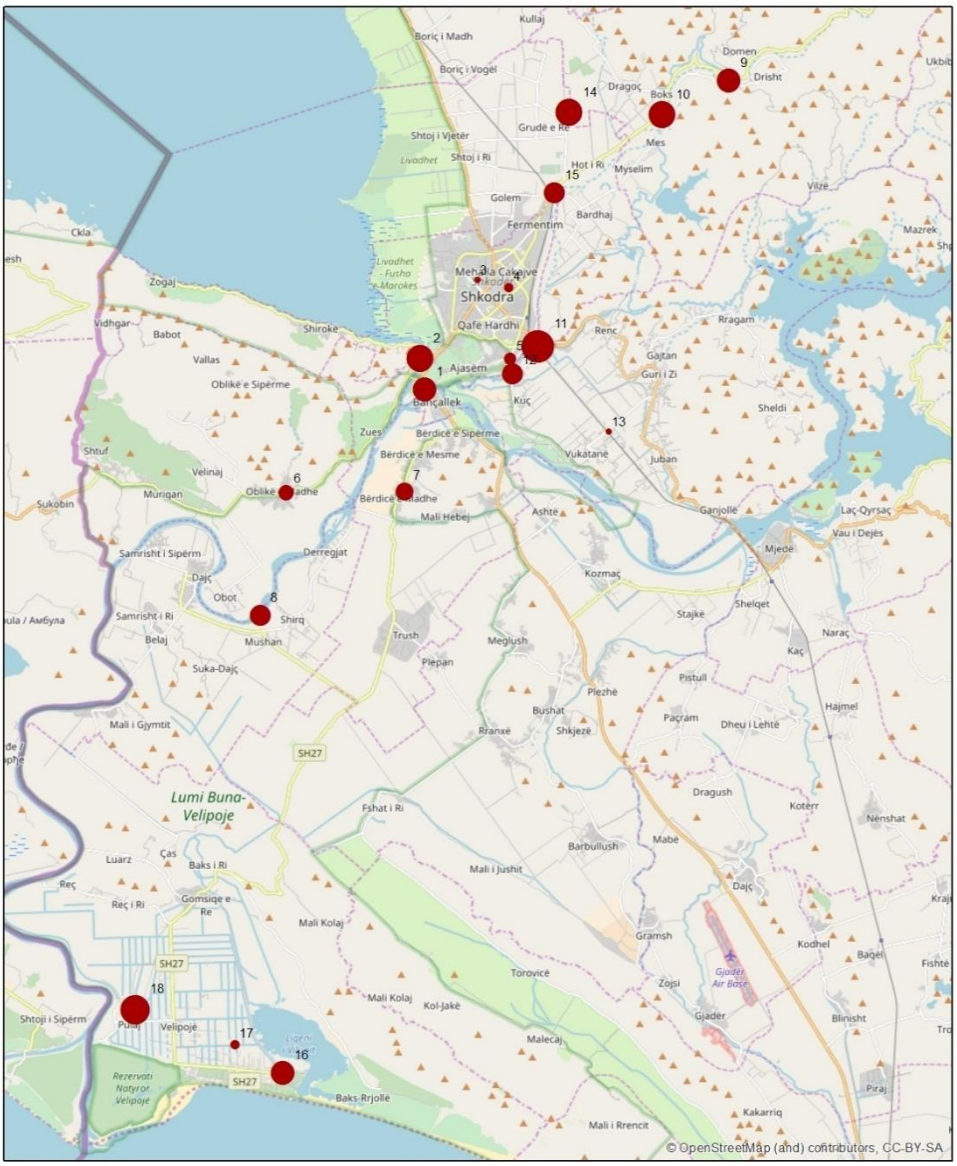


Fig. 7.3 Dumpsites referred from working Groups for Shkodra Municipality

Malësi e Madhe Municipality: Urban waste that is generated at Malësi e Madhe municipality are transferred to the improvised dumpsite at Badër të Mehajve, which has an approximate surface of 4 ha. Besides Kelmend Administrative Unit, all other AUs (Koplik, Kastrat, Gruemirë, Qendër and Shkrel) are depositing their waste on this dumpsite.

The waste material is thrown not in an ordered manner and without any criteria that allows maintaining operations. Absence of fencing allows farm animals and, in some cases, even unauthorized persons to access the waste heaps. There are noticed sporadic fires and often waste to be flown away from the wind.

Data referred by the Working Group:

As it can be seen on Table 7-3, for Malësi e Madhe municipality are referred 5 dumpsites, from which, only for that in Badër të Mehajve (actually being used from municipality) is requested rehabilitation. The other 4 remaining (4 waste collecting spots) are actually

abandoned regardless of waste being still deposited sporadically there. For these spots, Malësi e Madhe municipality requires to be closed according the standards defined on the Methodology for Dumpsite Risk Mitigation.

The intervention costing is estimated from consultant (expert team) engaged from dldp for this purpose.

Puka Municipality: Waste coming from this area are deposited at Fushë Qarri dumpsite. This dumpsite is rehabilitated during year 2017 through technical and financial support of dldp. This intervention consisted of some rehabilitation measures that fit completely with the Methodology for Dumpsite Risk Mitigation.

Data referred by the Working Group:

For Puka Municipality is referred only a dumpsite located at Rras, Gjegjan AU. This dumpsite serves mainly to the Gjegjan AU and its surrounding villages. Rehabilitation, is judged from municipality, as the necessary measure to be taken because this dumpsite the waste is thrown with no criteria and distance with Fushë Qarri dumpsite is very big.

Fushë Arrës Municipality: Waste coming from municipality territory are deposited at Kthesa e Krrabit dumpsite, located at the left of road segment Fushë-Arrës - Krrab. This dumpsite is on use from year 2005 and there are deposited mainly waste coming from Fushë-Arrës and Qafa-Malit AU.

Fushë-Arrës city has a distance approximately 75 km from Bushati landfill, thus being the main reason the transportation costs to be too high (unaffordable) so the waste can be deposited there.

Dumpsite located at Kthesa e Krrabit is actually out of minimum required standards (technical and legal) and the need to intervene there, is an emergency. To explain further the existing conditions on this dumpsite, among other things is missing the fencing, making it accessible for casual passing by people as well as for animals roaming there. Actually, it is absent any kind of infrastructure for the surface water treatment and for leachates, and such absence has a huge impact on Fani Madh river. From the working groups it is foreseen as well the bush and vegetation cutting nearby dumpsite, because often during dsu8mmer season sporadic fires threaten the forest that is surrounding the dumpsite.

It must be clarified that this dumpsite is considered from the elaborated study done from Eptisa because Fushë Arrës municipality is within the studied area. According to this study Kthesa e Krrabit dumpsite is foreseen to be closed taking into consideration the operational conditions there but also its position, being almost in middle of a forest.

Data referred by the Working Group:

By considering Methodology criteria Fushë-Arrës municipality requires rehabilitation of this dumpsite to make possible its usage for the 3-5 upcoming year, till a new infrastructure is built that will solve the municipality's problems regarding the waste storage.

Vau Dejës Municipality: actually, deposits its waste at Bushati landfill. This service is covering mainly Vau Dejës and Bushati AU and partially covering Vig-Mnelë and Hajmel AU. Regardless the small inhabitants number of AU Shllak and Temal and their respective generated waste quantities, offering this service there is almost impossible as a result of inappropriate road infrastructure. (Road that is connecting Vau i Dejës with these AUs is passing through Shkodra).

Data referred by the Working Group:

There is not referred any illegal dumpsite form the Working Group at local level in order to be taken into consideration from the Initiative for Dumpsite Risk Mitigation.

Table 7-3 Intervention and dumpsite costing at Shkodra Region

No.	Municipality	Dumpsite Name	Intervention	Intervention cost (ALL)
1	**FUSHË ARRËS**	Kthesa e Krrabit	Rehabilitation	3 816 908
2	**MALËSI E MADHE**	Dumpsite No.2 Koplik	Removal	4 728 880
3		Dumpsite No.3 Koplik	Removal	1 161 472
4		Badër të Mehajve	Rehabilitation	15 075 641
5		Dumpsite former Shkrel municipality	Removal	1 024 758
6		Inert waste Omaraj, Vrake	Removal	57 317
7	**PUKË**	Fushë Qarri	Rehabilitated	
8		Rras Gjegjan	Rehabilitation	1 132 348
9	**SHKODËR**	Alibegaj road entrance	Removal	333 005
10		Field aside Urës së vjetër të Bunës	Removal	650 026
11		Oblikë	Removal	128 849
12		Teli bridge	Removal	465,402
13		Mesi bridge	Removal	632 623
14		former DS at Varrezat e Dëshmorëve	Closure	16 269 852
15		Kir river coast	Removal	186 412
16		former aviation field	Removal	598 044
17		Bardhajve bridge	Removal	188 755
18		Vilu Irrigation pumping station	Removal	567 680
19		Suka Pulaj	Closure	4 519 856
20	**VAU DEJËS**	Bushati landfill	Legal	
			Total cost for Shkodra Region	**51 537 828**

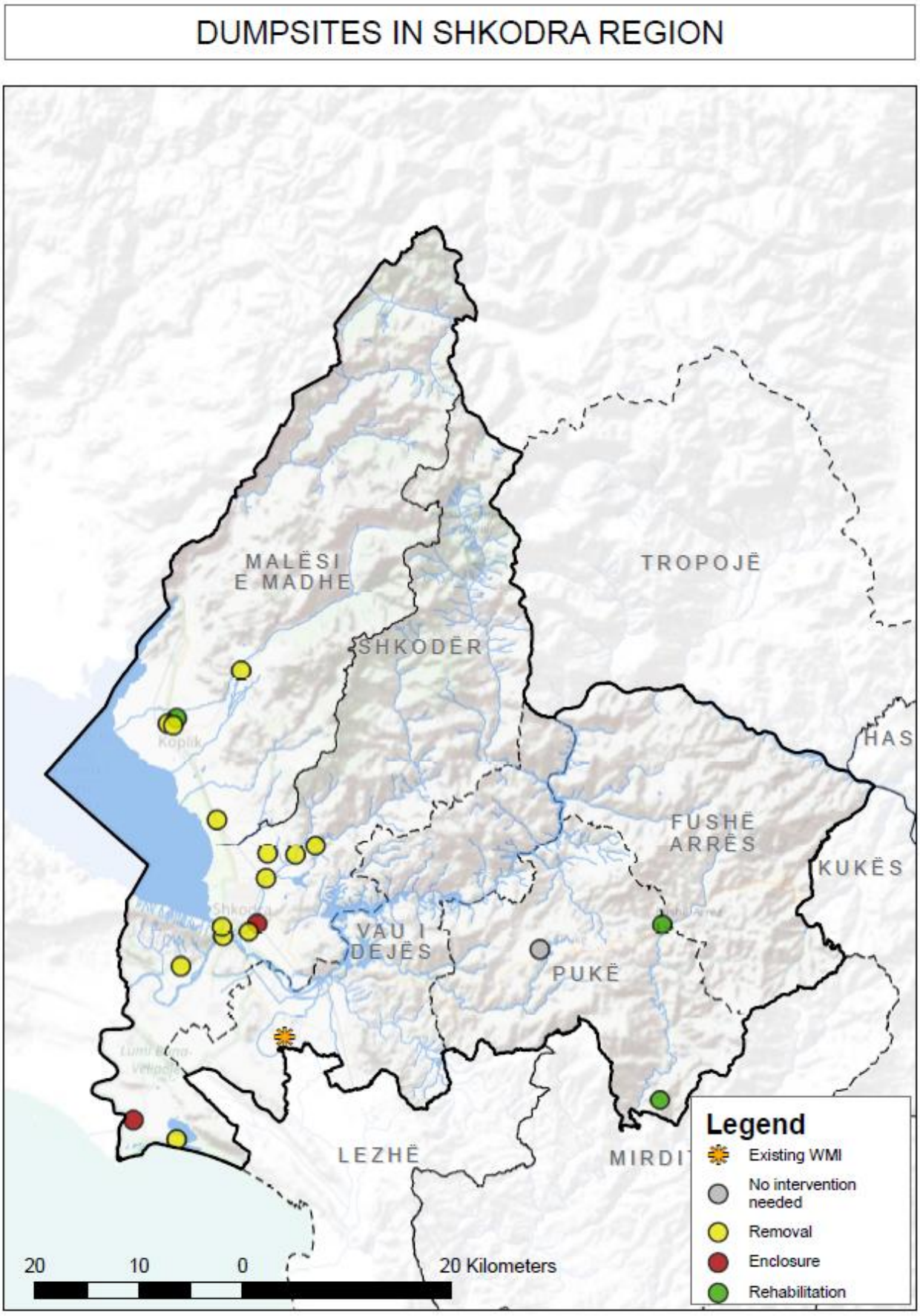


Fig. 7.4 Dumpsites in Shkodër Region

7.4. Kukës Region

Kukës Region consists of 3 municipalities (Kukës, Tropojë and Has) and is extended on the mountainous north-east par of Albania. Regardless Rruga e Kombit (National Road) was built, connecting Kukës and its surrounding areas with the central Albania, moving around within the region still remains difficult, despite several investments on the road infrastructure during recent years. this comes because of the steep mountainous terrain imposing long and curvy roads.

For the moment in Kukës region there is no commissioned sanitary landfill nor any waste treatment plant. Depositing of waste from main urban centers like Kukësi, Tropoja apo Hasi, is done at local dumpsites, having a 2-5 km distance from city center. As for the rural areas there are no clear data. In some villages it is still being used the traditional method of composting and burying of the waste at family pits or family group pits. shortages of this service have multidimensional negative effects. On one hand these effects threaten the inhabits health and their life quality, and on the other hand this effect has a negative impact on the economical development of this territory, that has tourism as its main economical generator.

Data referred by the Working Group at local level:

Data coming from Working Groups at local level fit with the proposal of the Project "Technical Assistance of Integrated Solid Waste Management in two Municipalities of Albania"[28], and matches as well with the Regional Plan for Feasibility Study for the Integrated Waste Management of the Northeast Region of the country. Based on these detailed studies of the existing conditions of the dumpsites on the country north-eastern region, are prepared the Measures Plan (Designs) and the respective BoQ.

Decision-making and prioritization of closure intervention, rehabilitation or removal of waste from dumpsites is an important process that is very sensitive and closely connected with the environmental affection, and also with health safety conditions for the population and other important vital aspects.

Kukës Municipality actually has two main dumpsites:

- Dumpsite for urban waste in Myç-Mamëz Kolsh municipality, Kukës
- Dumpsite for inert waste in Kukës (Bregu mbi Bozhë)

Waste at the dumpsite in Myç-Mamëz are thrown in open spaces, and there is missing a specialized treatment. Periodically they are covered by soil, and subsequently abandoned, causing anaerobic discomposure of these waste, thus generation of methane gas and other environmental pollution elements.

[28] TA for Integrated Solid Waste Management System for two Selected Municipalities of Albania - EuropeAid/138181/DH/SER/AL, elaborated from Eptisa.

The site of this dumpsite is located on a wold, has an area of 1.1 ha and an average depth of 5m, thus having an estimated approximate waste volume equal to 50 000m^3. This field is used for approximately 9 years and meanwhile is deposited a waste volume of 30 000m^3.

Dumpsite of inert waste located at Bregu mbi Bozhë is in use from the year 2009 and is 1.2 km far from Kukës city center and has a distance of 6 km from urban waste dumpsite in Myç-Mamëz. This dumpsite has an aerial distance of 300m from the natural landmark "Kodër Lume", a 150m distance from Fierza Lake, whereas its shore is declared as a priority area for tourism development through DCM No. 88 dated 01.03.1993 "For the approval of the areas that have priority for the development of the tourism", updated.

As it can be seen from the Table 7-4 Myç-Mamëz dumpsite is planned for rehabilitation while that in Bregu mbi Bozhë to be closed. These proposals are matching as well the Integrated Waste Management Plan, 2016-2020, for Kukës Municipality[29].

Fig. 7.5 Photo from dumpsite at Bregu mbi Bozhë for inert waste in Kukës

Tropoja Municipality reports 2 main dumpsites that can be treated through the Initiative "For the Dumpsite Risk Mitigation":

- Dumpsite in Koj
- Dumpsite in Fierzë

Urban waste dumpsite in Koj is located in the eastern part of Bajram Curri city, on a place called Përroi i Kojës approximately 2km distant from city center. This dumpsite has a

[29] "PMIM 2016-2020, for Kukës municipality" was financed under the project IPA Cross Border Cooperation Alania – Kosovo "Environment Protection and Waste Management".

distance of 300m from the inhabited area and the same from national road. Nearby is also a former quarry and a field for storing and wood marketing.

Regardless this dumpsite is built based on TRCAR No.6, dated 17.01.2008 "For the approval of partial urban study of the site and for the construction permission of "Urban waste dumpsite of Bajram Curri city"", its actual conditions are considerably deteriorated. Its fencing is heavily damaged and at the same time there lacking totally the operation standards and uncontrolled waste thrown there exhibit a risk not only to the environment but also for the population.

Dumpsite in Fierzë is built through a Council Decision of the former Fierzë municipality and was constructed without any project and completely lacking even for minimum technical requirements.

Has Municipality reports only one dumpsite located on a place called Qafë Bajrak, around 500m far from Kukës-Krumë road. The area where DS is located has a wold shape and once was a military facility. The area there is covered with vegetation and bushes.

The surface of this area is approximately 6 000 m^2 while perimeter is 400m. Depth available for waste depositing is estimated 3-5m. The base soil is rocky with ultra-basic features that does not present any geo-technical issue due to their solidity, but the draining flowing from waste decomposing infiltrate towards soil depths through the deep developed cracks texture. The composure of urban waste is mixed and in the dumpsite is lacking a daily and periodic management. The estimate volume of waste is around 12 000-15 000 m^3. In the vicinities of dumpsite there are not any water ponds and is not reported any agricultural nor animal farming activity for at least a distance about 1km.

Table 7-4 Intervention and dumpsite costing at Kukës Region

No.	Municipality	Dumpsite Name	Intervention	Intervention cost (ALL)
1	**HAS**	1-Has	Rehabilitation	8 813 543
2	**KUKËS**	Myç-Mamëz	Rehabilitation	8 832 788
3		Bregu mbi Bozhë	Closure	10 668 262
4	**TROPOJË**	1-Koj	Rehabilitation	12 383 396
5		2-Fierzë	Removal	1 004 331
6		Lekbibaj	Removal	285 926
Total cost Kukës Region				**41 988 246**

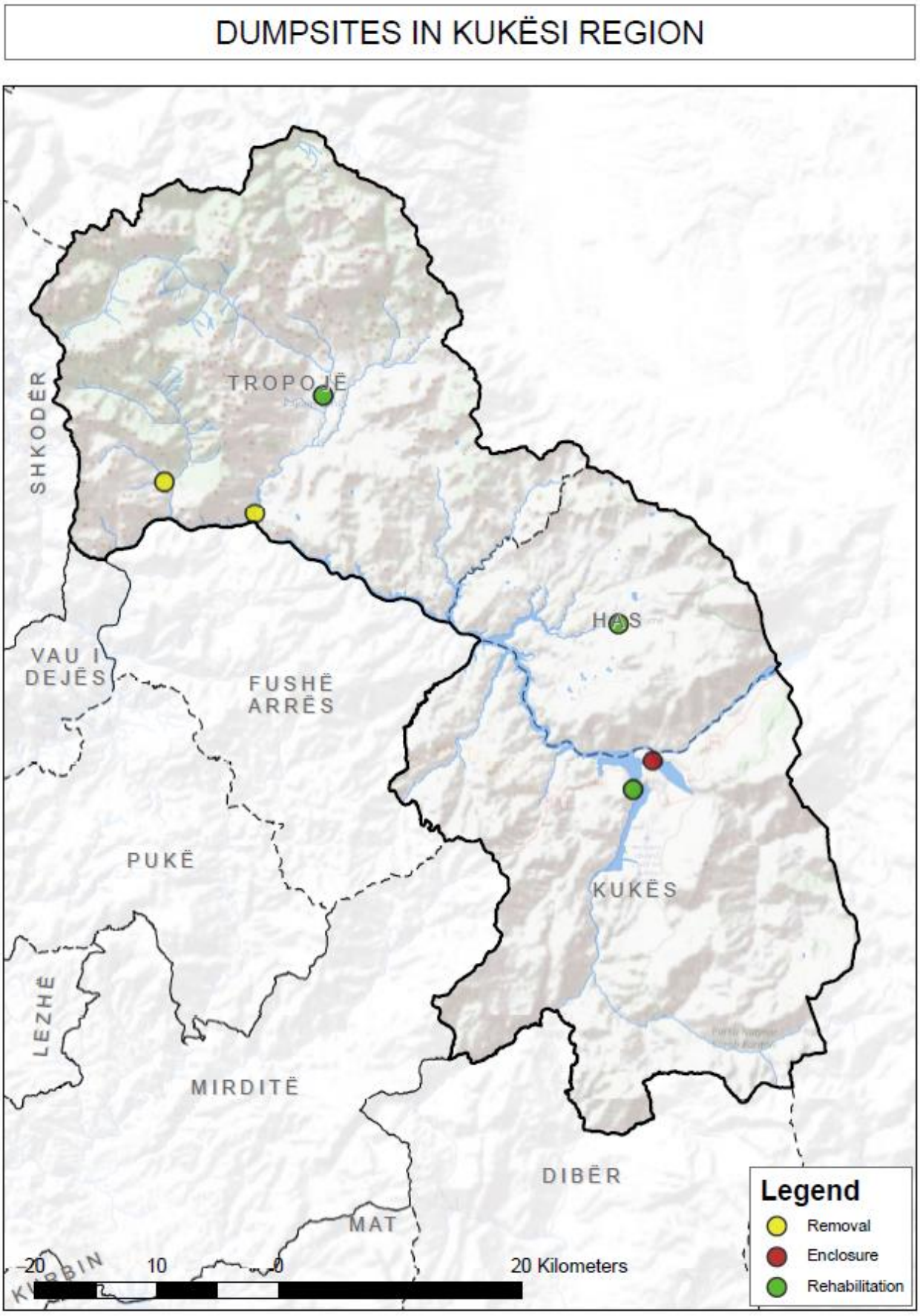


Fig. 7.6 Dumspites in Kukës Region

7.5. Lezha Region

The waste management for 3 Administration Units of Lezha region is at an acceptable level having in mind that Lezha municipality is depositing its waste at Bushati Landfill while the Mirditë municipality because of Hydropower Dam (HPD) in Ulëz gained advantage for the removal of the existing dumpsite and and constructing a new sanitary landfill out of the flooded area. This dumpsite, known as Ndërfushas i Ri, was finished on 2017 and actually there are deposited waste coming from Mirditë municipality (those that are collected). At this dumpsite, there are transferred (deposited) as well the waste coming from Cekajve dumpsite, which is already closed and rehabilitated.

Data referred by the Working Group at local level:

Lezha Municipality is actually depositing its waste at Bushati Landfill according to a scheme divided in 3 Service Areas which are approved and are referred as well at the Integrated Waste Management Plan, Lezha Municipality, 2017-2021[30].

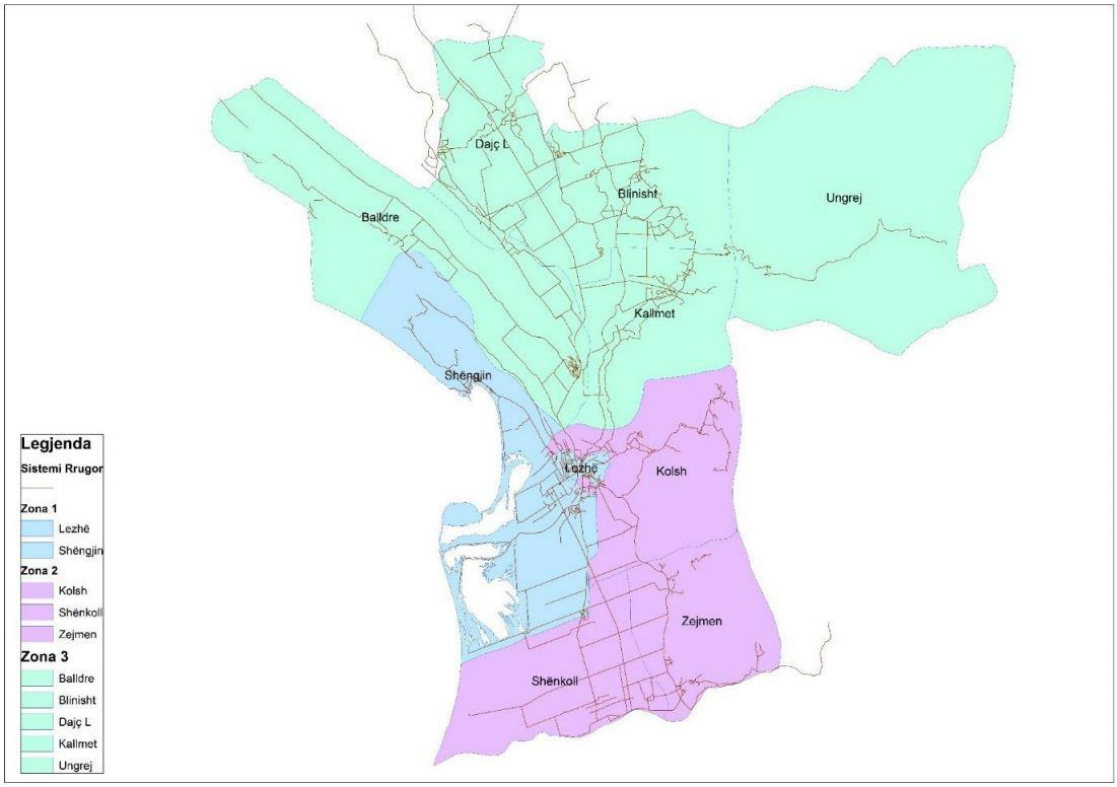


Fig. 7.7 Service areas in Lezha municipality (according PMIM 2017-2021)

The only dumpsite referred for rehabilitation is that located at Nënë Tereza Neighborhood which is foreseen for 3-5 year utilization period.

The dumpsite located at Nënë Tereza Neighborhood, on the Integrated Waste Management Plan, Lezha Municipality, 2017-2021, is regarded as a main collection spot during touristic season.

[30] PMIM Municipality Lezha 2017-2021, is supported from dldp programme and elaborated from URI

Mirditë Municipality refers 3 dumpsites that exhibit a high environmental risk thus requiring the quickest intervention possible. The main risk these dumpsites exhibit is their vicinity to surface water ponds (Zmeja river, Fan river) but at the same time its proximity with inhabited areas raises further this concern. These 3 dumpsites are:

- Illegal DS in Ndërfushas: Located nearby national road. Also, very easily accessed from the habitants and farm animals. It is around 140m from inhabited areas.
- DS in Zmeja river: This dumpsite is located very close the inhabited area and along the Zmeja river bank. Easy noticed from visitors. This dumpsite is used mainly for inert waste.
- DS in Fan river: This dumpsite is located very close the inhabited area and along the Fan river bank. In this case as well, very easily accessed from the habitants.

Regarding these dumpsites, Working Group at local level came to the conclusion that removal of the waste along this area is the best option. On the Table 7-5, these interventions are shown with the same amount because Working Group has prepared a sole BoQ for all three dumpsites. total amount is distributed uniformly for each of these interventions.

Kurbin Municipality referred only a dumpsite located in Kodër Kolç. According the situation presented from Working Group at local level, some legal exclusion criteria suggest the closure of this dumpsite. Despite the closure reasons, because that there is not any other available dumpsite for the area level this dumpsite is referred for rehabilitation to be used for another 2-5 year period.

Geographic location of this dumpsite, situated on a hill, is posing a considerable threat for the surface and underground waters. Also, the dense vegetation surrounding the dumpsite exhibits a high fire risk especially on summer season.

Table 7-5 Intervention and dumpsite costing at Lezha Region

No.	Municipality	Dumpsite Name	Intervention	Intervention cost (ALL)
1	**KURBIN**	Kodër Kolç	Rehabilitation	5 741 931
2	**LEZHË**	Nënë Tereza neighborhood	Rehabilitation	889 924
3	**MIRDITË**	Illegal dumpsite in Ndërfushas	Closure	369 520
4		Zmeja river	Closure	369 520
5		Fan river	Removal	369 520
6		Old legal dumpsite in Ndërfushas	Closed	
7		Legal dumpsite in Ndërfushas i Ri	Legal	
Total cost Lezha Region				**7 740 415**

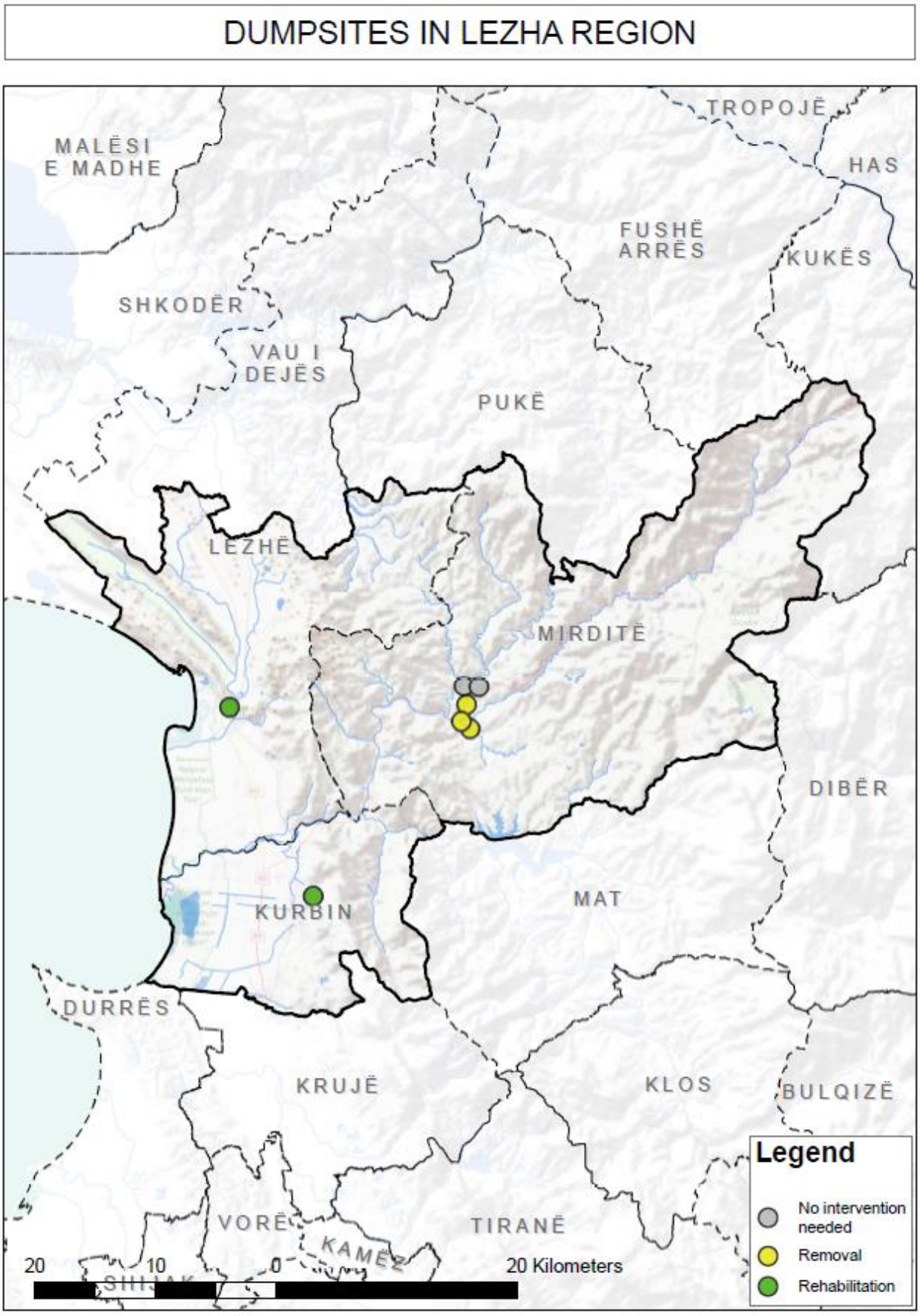


Fig. 7.8 Dumpsites in Lezhë Region

7.6. Dibër Region

Throughout four municipalities (Dibër, Mat, Klos and Bulqizë) are reported some dumpsites divided in two main categories:

- Dumpsites that are built according administrative decisions (permissions, etc.), regardless of the actual conditions and the fact that they are not operating according standards;
- Completely illegal dumpsites

Dumpsites built legally:

1. Dumpsite in Burrel city, approved by Council's Decision of Mat Region no.6 dated 15.08.1997.
2. Bulqizë municipality has a dumpsite (at Qafa e Buallit) and other the collection spots (at Trebisht, Ostren and Krast). approved by MCT No. 36, dated 07.07.2016 "Urban waste dumpsites"
3. Dibër municipality has a dumpsite in Llasen, Peshkopi, approved by TRCAR Decision No.1, dated 21th.05.2001 "For the approval of the construction site of the dumpsite for urban waste of Peshkopi city". In 2017 this dumpsite was rehabilitated through dldp support. Intervention was executed based on technical project and the respective BoQ elaborated for this purpose, where were foreseen some of most emergency measure for environment risk mitigation. Actually, Dibër municipality dumpsite can be considered under control an active one. This dumpsite is serving to 30 000 habitants, mainly living in Peshkopi municipality but also including Maqellara area (16 km). This dumpsite is operation since 2003 and occupies a surface approx. 8 000 m^2. The daily waste quantity deposited is estimated 15ton, quantity in a year is estimated 5 400ton. The waste composure is mixed, urban waste and partially inert waste. It is not performed a differentiated collection at the collection spots.

All the above listed dumpsites do not have an environment permission.

From the site inspections there also reported some illegal waste collection spots, listed hereunder:

1. Not operational dumpsite in Ulzë Bridge – a Touristic spot. Ulzë Lake classifies within category: Natural Reserve Managed Park. This is decided by Region Council Decision No. 16, dated 03.04.2013.
2. Dumpsite in Cërruj, not functional but appropriate conditions to be used as dumpsite.
3. Illegal Dumpsite in Maqellara, located on Pesjakë bridge, and posing a big threat to the population.
4. Muhurr, an illegal dumpsite.
5. Rabdisht, an illegal dumpsite.

6. Kastriot (Kuke + Gjeogjosh), illegal dumpsites threatening the population.

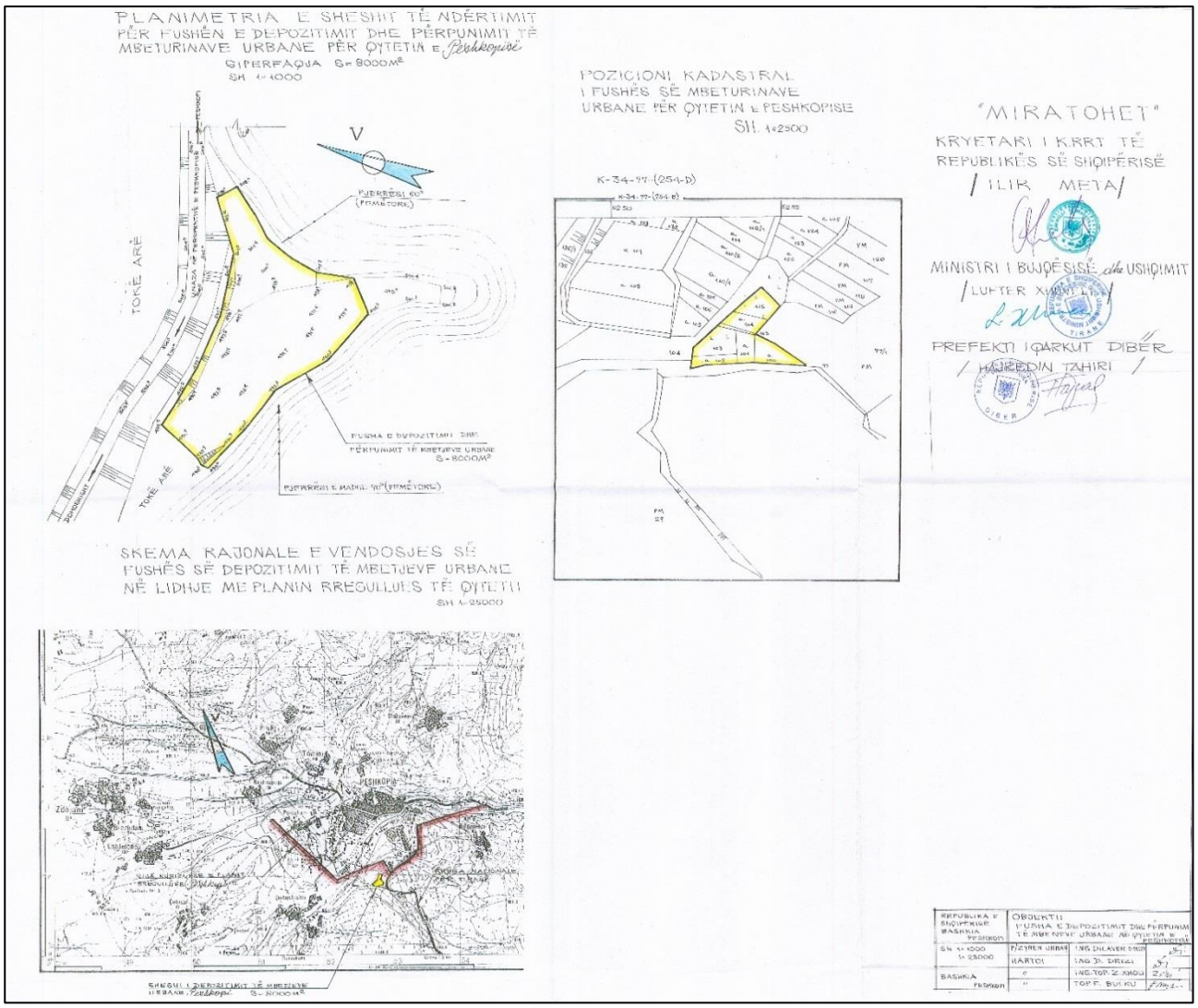


Fig. 7.9 Decision of TRCAR No.1, dated 21.05.2001 for the Peshkopi dumpsite

According the decision-taking process that Working Groups at local level did, some of these dumpsites must be removed because they are very near the habited areas (Bridge of Pesjakë) or (Ulzë) that lay within a protected area producing thus negative impact on the tourism.

For some of the proposed interventions is considered Eptisa study because includes municipalities from Dibër Region, despite that fact worth mentioning that there are found contradicts between municipality decisions and Eptisa Report.

Following, there are listed some of the noticed features for Dibër region municipalities:

Bulqizë Municipality is the only one in Albania that seeks rehabilitation of all the 3 dumpsites. From the estimation of the Working Group at local level but also based on direct technical discussions, it is noticed that such decision comes from the fact that road infrastructure is heavily damaged and very big inter-distances between inhabited areas. Based also on the MCD of Bulqizë municipality No. 36 dated 07.07.2016 "Urban waste

dumpsites", it can be concluded that this municipality considers these facilities as a sole infrastructure for waste treatment but divided in different areas.

Dibër Municipality requests the removal of 4 reported dumpsites implying that will continue to use the dumpsite rehabilitated recently, Llasen dumpsite, nearby Peshkopi city.

Klos Municipality reports and seeks rehabilitation for a dumpsite that is actually abandoned. This is because, from some years now this municipality through an inter-local contract, is depositing its waste in Burrel (Mat municipality) dumpsite. Th reason this rehabilitation is requested is the vicinity this dumpsite has with Klos city and the high costs that municipality actually covers for their transportation. It is important to remind that according Eptisa Report, this dumpsite is referred for complete closure (encapsulation) and territory setup and leveling.

Mat Municipality listed in this platform 2 dumpsites, of which one is for rehabilitation (waste collection field of Burrel city) and the other requested to be closed (Ulzë bridge).

The actual situation of the dumpsite near Burrel city is at relatively acceptable conditions and does not pose any threat to the population. Actually, there are deposited urban and inert waste. This dumpsite is approved by the Council Decision of Mat Region no. 6 dated 15.08.1997 but does not include an environment permission.

Ulzë bridge dumpsite is refereed because its proximity with lake shore and the negative impact it has for the environment and tourism.

Table 7-6 Intervention and dumpsite costing at Dibër Region

No.	Municipality	Dumpsite Name	Intervention	Intervention cost (ALL)
1	BULQIZË	Qafa e Buallit	Rehabilitation	9 008 431
2		Ostren	Rehabilitation	1 409 684
3		Krastë	Rehabilitation	5 122 142
4	DIBËR	Pesjakë Bridge, Maqellara	Removal	9 939 134
5		Llasen, Peshkopi	Rehabilitated	
6		Muhurr	Removal	136 368
7		Rabdisht	Removal	675 382
8		Gjelagjosh Stream, Kastriot	Removal	191 276
9		Kastriot, Kukë	Removal	459 382
10	KLOS	Cërruj (Patina Curve)	Rehabilitation	2 492 434
11	MAT	Waste collection field in Burrel city	Rehabilitation	4 350 804
12		Ulzë Bridge	Closure	1 092 828
			Total cost for Dibër Region	**34 877 865**

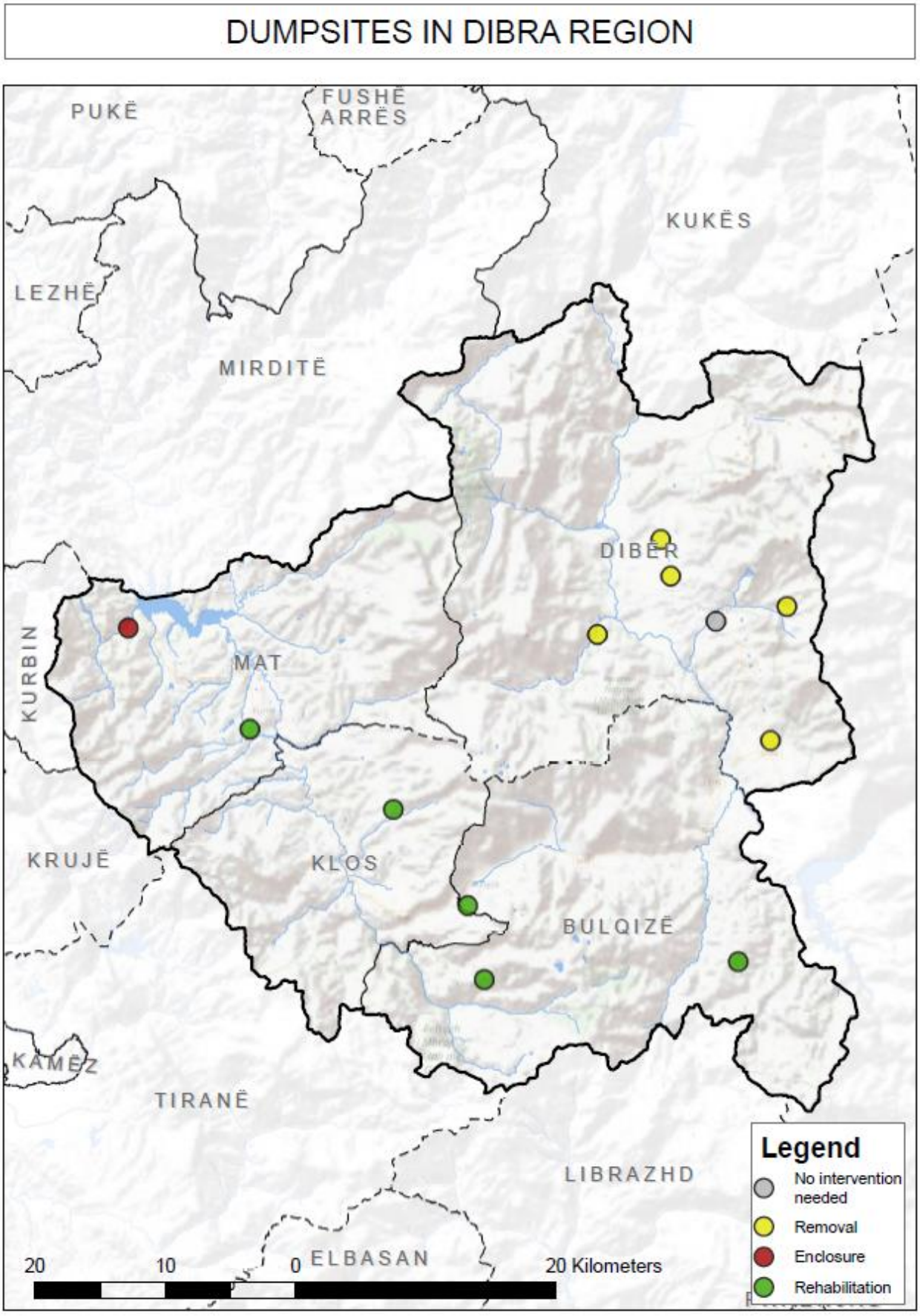


Fig. 7.10 Dumpsites in Dibër Region

7.7. Durrës Region

Considering the high population density and all other aspects such as, touristic values and its role as national infrastructure interconnection, Durrës Region is reported as one of the most environmental problematic areas throughout all Albania. All the dumpsites actually in use, are out of standards and the waste volume often surpasses their foreseen capacity.

Data referred by the Working Group at local level:

Durrës Municipality is reporting four dumpsites within its administrative territory, at which is deposited all the undifferentiated urban waste quantity. In some case there are deposited even hazardous materials, hospital waste and industrial waste along with inert waste, not respecting any standards at all. Following there are listed some information for these dumpsites:

Dumpsite in Porto-Romano is approved with Council decision of Durrës Region with No.1 dated 14.09.1998, and has an area of 5 000 m^2, while the municipality property available has a total area of 222 000 m^2. Actually, approximately 80 000 m^2 are occupied from urban waste. This dumpsite is actually managed from Durrës Municipality Services Company (DMSC), that has in its payroll 5 employees. The personnel mainly manage and compresses the waste volume with a backhoe and a compactor. At the dumpsite entrance is missing the weighting-bridge, consequently the DMSC can only approximate the waste volume deposited there. According the data offered DMSC, during 2017, are deposited 80 000 m^2 of waste that correspond to 300ton/day. Waste deposited there are coming from Durrës City, Durrës Beach area, Shkozet and villages around.

Fig. 7.11 Porto Romano dumpsite, access road view and actual situation

Despite the fact that the Porto Romano dumpsite condition is out of environmental standards, Durrës municipality has requested its rehabilitation, until a quick and long-term solution at regional level for waste management is found.

DS in Vadardhë, Sukth, approved with Council Decision of the former Sukth municipality with no. 32, dated 13.12.2013. This dumpsite is in operation from 2015 and there are deposited around 15 000 m³ urban waste, or 41 m³ each day. The DS is not divided in portions, and different types waste are deposited in an open space. It is located in a very environmental sensitive area and very near to the inhabited areas. Geological inspections show that the soils are made of clays and mud, having a low permeability. Waste are stored in heaps with heights approximately 2-3 m. This DS is out of any functioning and operational standards.

DS in Grykë-Minierë, Manëz, approved with Council Decision of the former Manëz municipality serves as the place to deposit urban waste of this AU. It has an approximate surface of 2 778 m². This Ds has begun to operate accordingly from 2001 and actually deposits 2 310 m³ urban waste a year, or 6.5 m³ each day. Its internal waste collection place is not divided in portions thus different types of waste are deposited in disordered manner. There are not any inhabited areas in its proximities but the main concern remains the 150m distance from Përroi i Shehut (Shehu stream). Consequently, demands a periodical inspection from relevant authorities to monitor its pollution grade.

DS in Fushë Biz, Ishëm, serves as the place to deposit urban waste of this AU (Ishëm). It is approved with Council Decision of the former Ishëm municipality with no. 29, dated 22.09.2014 and has an approximate surface of 2 320 m². This DS actually deposits 5 900 m³ urban waste a year, or 16 m³ each day. The DS is 400 distant from Topana Lake. Water supply network of Water and Canalizations Durrës (WCD) is distant more than 800m. Since this is a hilly area there is no flooding danger. The nearest distance to an inhabited area is 550m, precisely from Biz village.

Krujë Municipality. A short summary briefing the inspections done on site for the 3 actual dumpsites within Krujë municipality territory is given hereunder:

Dumpsite 1 Kameras: located on an area that has some exclusions legal criteria, which indicate the decision to its closure. Among the main reasons are listed:

- Its vicinity with Bardhari stream, that is used for agriculture watering, thus posing real danger to filtrate the pollution toward underground waters;
- Geographic location and its altitude higher than Dollakë lake, with no fencing and surface waters nor leachate draining disciplining measures, it can be easily noted that this dumpsite pollutes this lake and under it, having a direct impact in its flora and fauna;
- Natural landscape damaging, only 500m from national road Fushë Krujë-Krujë;
- Vegetation around the dumpsite is threated from intended or sporadic fires;
- Regarding its negative influence on this area tourism it should be mentioned that this dumpsite is 2km far from Albanopolis antique city and 5 km from Krujë touristic city.

Actually, the surface of the dumpsite is bigger than that approved from Council Decision of the former Krujë municipality. Considering the aforementioned reasons, the optimal option would be to remove the waste, regardless that this process poses as well.

Dumpsite 2 Krastë: located within a forestry economy space, Krastë-Krujë, and poses a very critical environment. The big waste quantity, steep terrain, obvious fire threat, its vicinity with inhabited areas (200m far from it is located a clothing business, 250m far is located the Krujë city cemetery), its proximity with the national road Fushë Krujë-Krujë and the negative impact for the visiting tourist in that area, indicate the conclusion can be the closure of this dumpsite. An optimal intervention is considered the removal of the waste.

Dumpsite 3 Dukagjin, Thumanë: After in-situ inspection were performed from the Working Group, there were not found any clear legal exclusion criteria defined under the legal framework. Its main issue is the proximity with a primary irrigation channel which discharges at Ishëm river. The shape of this dumpsite is rectangular with a surface of approximately 9 800 m^2. Working group at local level came to a conclusion that this dumpsite presents slight environmental impacts despite of the fact that is completely illegal, having no approval from Krujë Municipality nor any other administration that had managed this territory.

The optimal measures proposed for this dumpsite are the waste removal and afterwards its closure. Another alternative is building a fencing wall around and the capsulation of the urban waste.

Shijak Municipality has not referred any dumpsite to be involved in the Initiative for the Risk Mitigation, and this comes because it actually deposits its waste in DS of Porto Romano. Regardless, in the platform is indeed included the old dumpsite, abandoned, and is also reported on the dumpsite map of the former MUD.

Table 7-7 Intervention and dumpsite costing at Durrës Region

No.	Municipality	Dumpsite Name	Intervention	Intervention cost (ALL)
1	DURRËS	04. Porto Romano	Rehabilitation	42 463 002
2		05. Vadardhë, Sukth	Closure	29 787 960
3		06. Grykë-Minierë, Manëz	Closure	5 014 592
4		07. Fushë Biz, Ishëm	Closure	2 105 157
5		Ishëm - MZHU	Closure	2 155 012
6	KRUJË	01. Kameras Fushë Krujë unit	Closure	2 824 004
7		02. Krastë	Closure	4 293 551
8		03. Dukagjin Thumanë unit	Rehabilitation	10 464 912
9	SHIJAK	Shijak MZHU	Removal	2 851 866
Total cost of Durrës Region				**101 960 056**

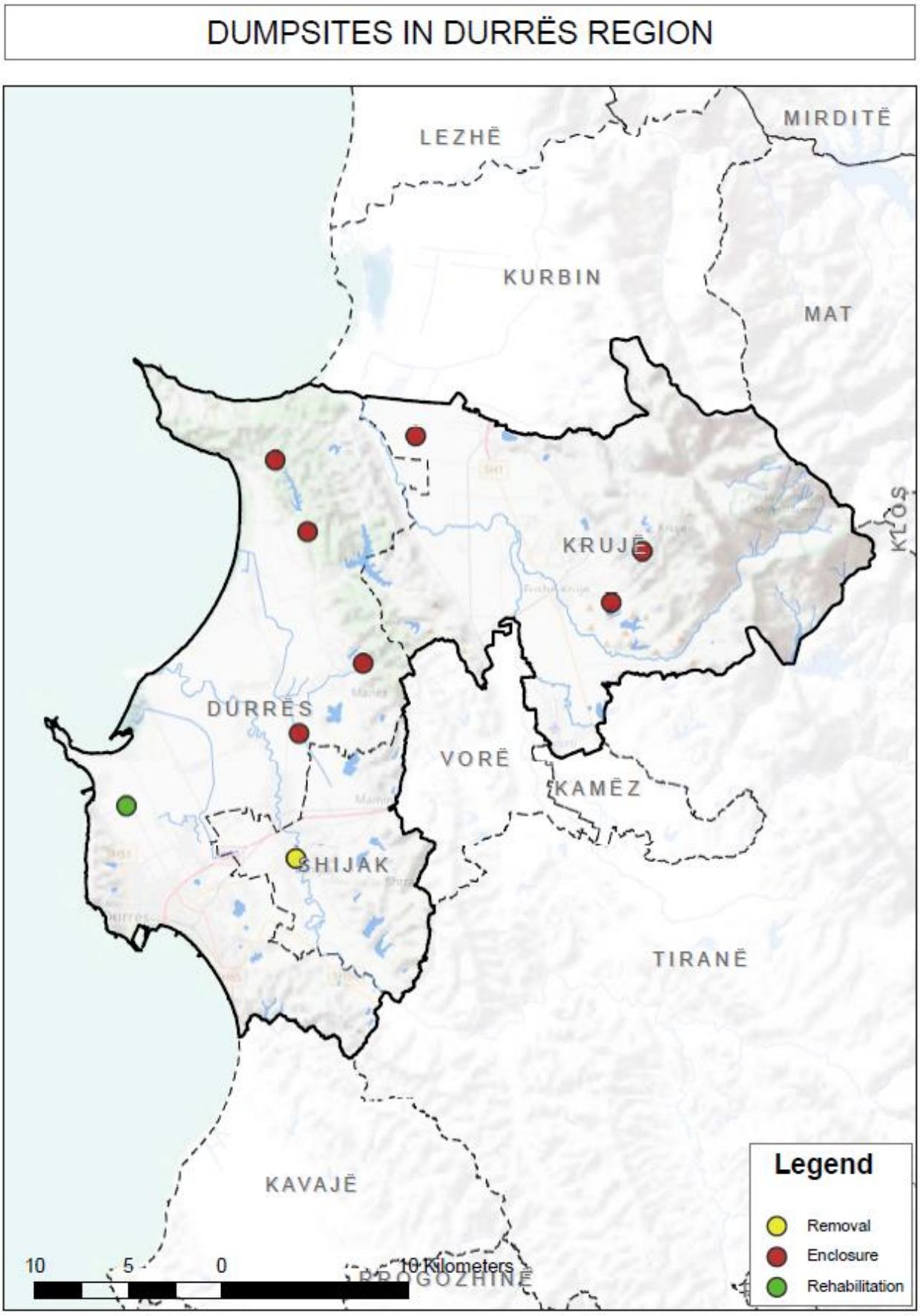


Fig. 7.12 Dumpsties in Durrës Region

7.8. Tirana Region

The only waste management infrastructure in Tirana Region is Sharra landfill, located in the village of Sharra, about 7 km from Tirana's city center. According to official data from the Municipality of Tirana, the total amount of waste deposited in the landfill for 2017 is 224 864 tons.

By the end of 2017, the cost of waste transport (1 165 ALL/ton) including landfill depositing, was covered by the Municipality's budget. Starting from 1 January 2018, this service is an obligation covered by concession contracts signed between the Ministry of Tourism and Environment and the contractor "Integrated Energy BV SPV", where the beneficiary is the Municipality of Tirana.

Based on the feasibility study for "Tirana Waste Treatment Area (TWTA)" developed by the contractor "Integrated Energy BV", 4 main objects will be built:

- Urban waste treatment plant (UWTP) with Waste to Energy Plant (WTE) producing electricity;
- Dumpsite of urban waste, dumpsite after processing them on a termovalorizator and that of solid waste;
- Recycling and stabilization plant of urban waste;
- Waste waters treatment plant;

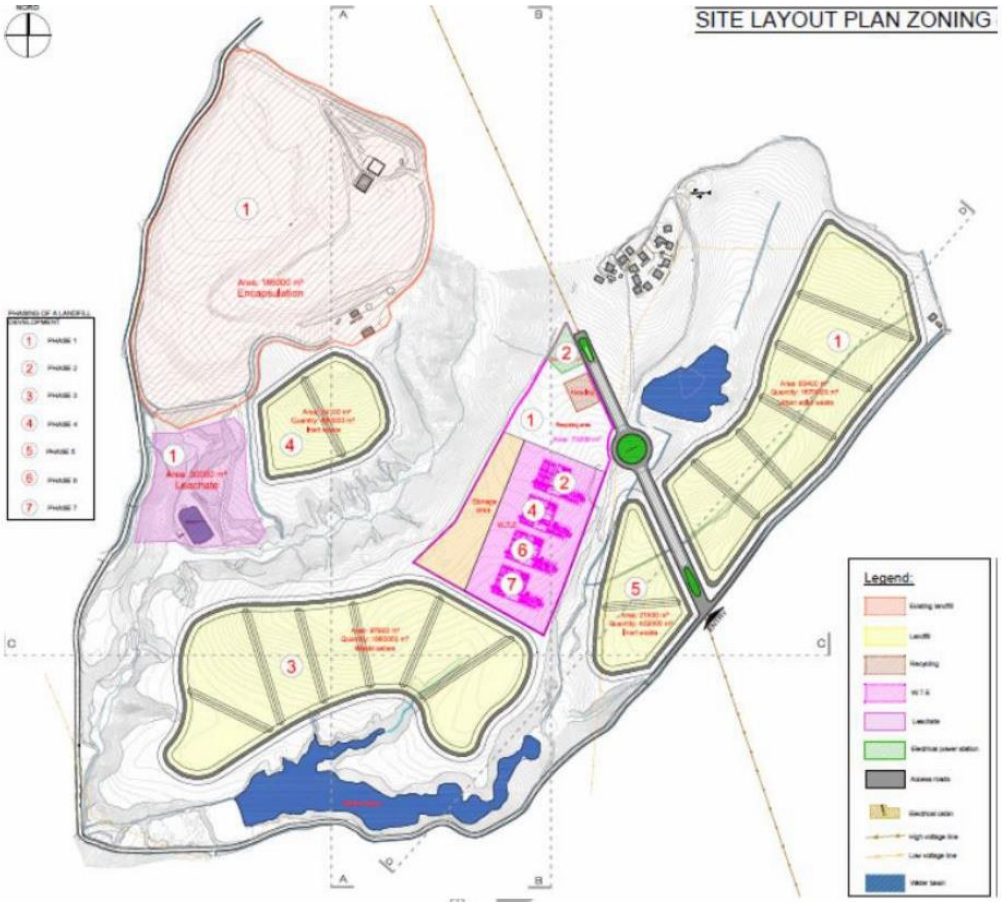


Fig 7 13 Site plan and layout of TWTA

- Lot A – Existing Sharra Dumpsite
- Lot B – Dumpsite of solid urban waste
- Lot C – Waste treatment plant
- Lot D – Recycling and stabilization plant
- Lot E – Waste water treatment plant
- Lot F – Dumpsite of ashes and urban waste
- Lot G – Dumpsite of inert waste
- Lot H – Dumpsite of inert waste

Parallel with the construction of the abovementioned facilities, will be realized the final encapsulation of the existing landfill of Sharra. All this project is foreseen for waste management and treatment throughout the Tirana Region.

The proposed site for the realization of the plant has an area of about 120 ha and extends south and east of the existing landfill area. This area has a general low slope towards the south-west and is interrupted by two small reservoirs

According to a preliminary estimation, it is expected to be handled a volume of 550-800 tons of waste per day, equivalent to a maximum sum of 292 000 tons of waste per year.

The planning investment for the TWTA construction is 128 248 330 Euro.

Table 7-8 Foreseen Investment at TWTA

Object	Costs (Euro)
Closure of the existing landfill	12 928 700
Termovalorizators	76 000 880
Dumpsite of solid urban waste	11 292 500
Dumpsite of inert waste	5 668 500
Dumpsite of ashes waste	11 292 500
Water purification plant	1 990 250
Differentiation plant	1 650 000
Electrical substation	1 225 000
Square, access roads, etc.	5 450 000
Transport vehicles	750 000
Total	**128 248 330**

According to the feasibility study, the municipality will pay 29.05 euros without VAT per ton /wastes. This value reaches 7 million euros for 246 800 tons of domestic waste produced every year by Tirana and processed by TWTA.

The following information is included in the Dumpsite Risk Mitigation Initiative

Data referred by the Working Group at the local level:

It is worth mentioning that in the case of Tirana Region, cooperation with municipal coordinators has been rather weak and almost all of the commitment came from the Working Group set up by the Tirana Prefecture.

Tirana Municipality has referred 19 landfills most of which do not meet the (quantitative) criteria to be treated as such. However, everything that came from the Prefecture Working Group is included in the respective Plan of Action and Costing, presented in the following Table 7-9.

Vora Municipality has referred only to the dumpsite of Kuç. From in-situ verification of the working group and communication with municipal staff covering this sector, it is concluded that this dumpsite presents some problems and contradicts some of the legal exclusionary criteria. The main risks it presents, mainly from the urban waste dumpsite are:

- the average geological permeability of the terrain where this dumpsite has been located may affect underground water contamination;
- positioning of this dumpsite in the water-collecting area of a reservoir (about 926m away), for agricultural purposes. Under such conditions, urban waste depositing in this dumpsite poses a risk of contamination of the reservoir water and possible filtrations.
- the main environmental risk is the presence of the forest and the risk of fires, which makes this dumpsite unsuitable for the disposal of urban waste, while solid waste from construction does not present this problem.

As such, this landfill is proposed for rehabilitation, provided that it will be used only for solid waste coming from construction.

Rrogozhina Municipality reports six dumpsites, of which 2 were added from former MUD platforms. It turns out one of the most problematic municipalities because all the points referred are nearby Shkumbini River. Often during the winter season, when the river rages because of the increased inflow, the edges of the dumpsite are damaged thus, it takes away waste by sending them to the Adriatic Sea. Being one of the municipalities assisted by GIZ, for the waste management sector, all proposed measures and costing matched the donor expertise.

Kamza Municipality did not refer any dumpsite. Form the dldp expertise, that supports MTE it is added a dumpsite from former MUD platform.

Kavaja Municipality. Form the working group of Tirana Prefecture is referred a fly tip, while from dldp expertise that supports MTE, are added two dumpsites from former MUD platform.

Table 7-9 Intervention and costing of dumpsites for Tirana Region

No.	Municipality	Dumpsite Name	Intervention	Intervention cost (ALL)
1	**KAMZA**	Dumpsite from MZHU 1	Removal	11 391 932
2	**KAVAJA**	Dumpsite from MZHU 1	Closure	1 155 657
3		Dumpsite from MZHU 2	Closure	5 061 157
4		Kavaja	Removal	44 339
5	**RROGOZHINA**	Dumpsite from MZHU 1	Rehabilitation	12 927 434
6		Dumpsite from MZHU 2	Closure	3 072 614
7		Rrogozhina bridge	Removal	1 145 527
8		Near the municipality	Removal	43 325
9		Gosa	Removal	252 756
10		Sharrdushk	Closure	35 816
11	**TIRANA**	Sharra Landfill		
12		Kashar	Removal	38 311
13		Damjan village bridge	Closure	5 664 281
14		Peza bridge	Removal	62 426
15		Menik	Closure	18 901 418
16		Beshiri bridge, Ndroq	Closure	3 792 590
17		Mëzez bridge	Removal	4 494 104
18		Mëzez	Closure	586 116
19		Arbane	Removal	76 616
20		Ferraj	Removal	23 998
21		Ura e Brarit	Closure	966 604
22		Krrabë	Closure	1 933 199
23		Baldushk	Closure	1 147 623
24		Ibë	Removal	254 126
25		Mjull-bathore	Removal	69 306
26		Prush, Vaqarr	Removal	164 029
27		Picallë	Removal	63 848
28		Linzë	Removal	76 616
29		Bulticë	Removal	127 067
30		Vishaj	Closure	9 469 163
31	**VORA**	Kuc	Rehabilitation	8 536 988
			Total cost for Tirana Region	**91 578 986**

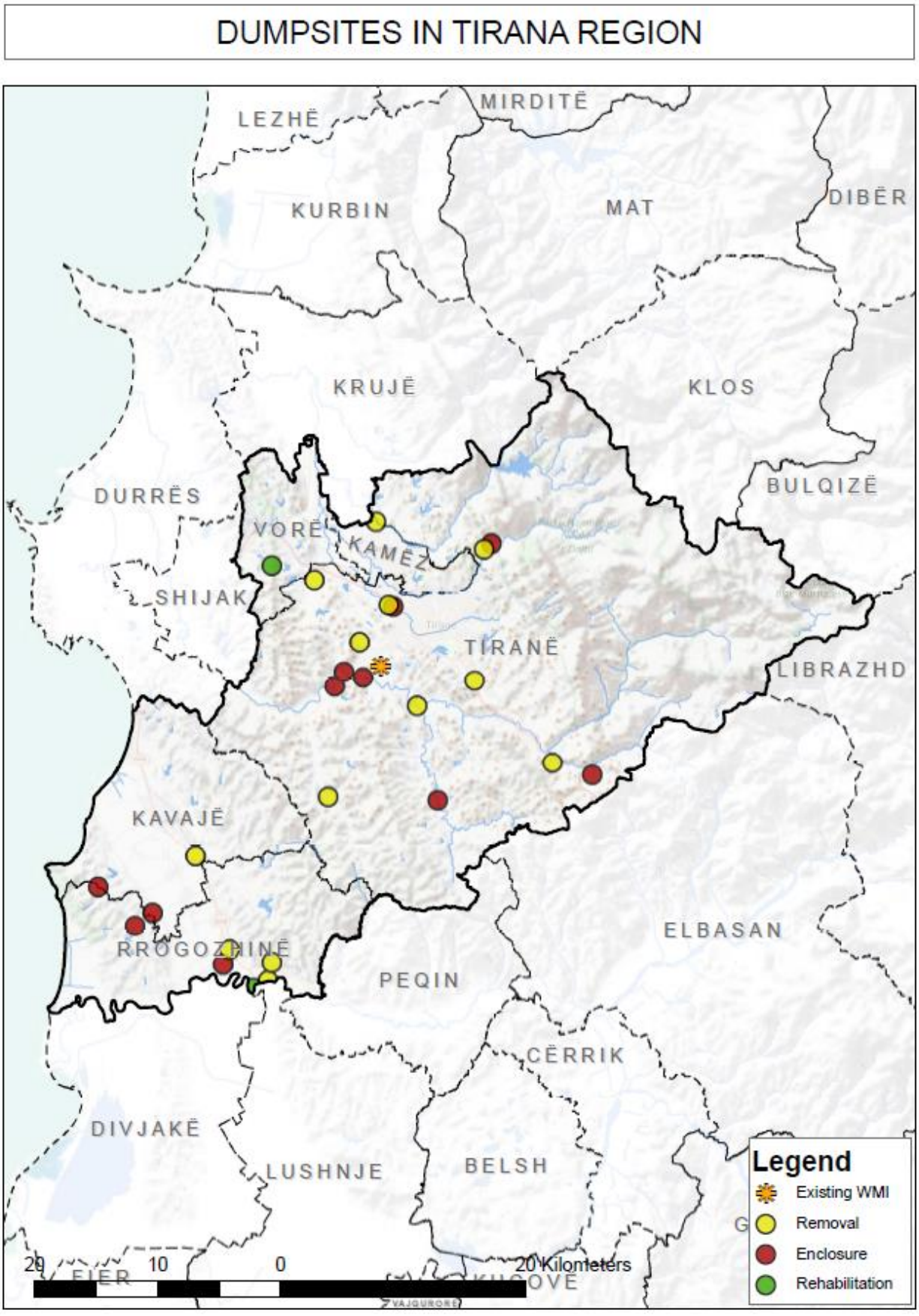


Fig. 7.14 Dumpsites in Tiranë Region

7.9. Elbasan Region

Waste treatment plant of Elbasan was approved by the Decision of NTC No. 1, dated 27 01 2015 "On the approval of the Construction Permission for the" Waste treatment plant and energy production of Elbasan region", in the Municipality of Elbasan" The plant is an investment worth 22 million Euro and has started work on April 2017. It is located in the dumpsite beside the former metallurgical factory in Elbasan.

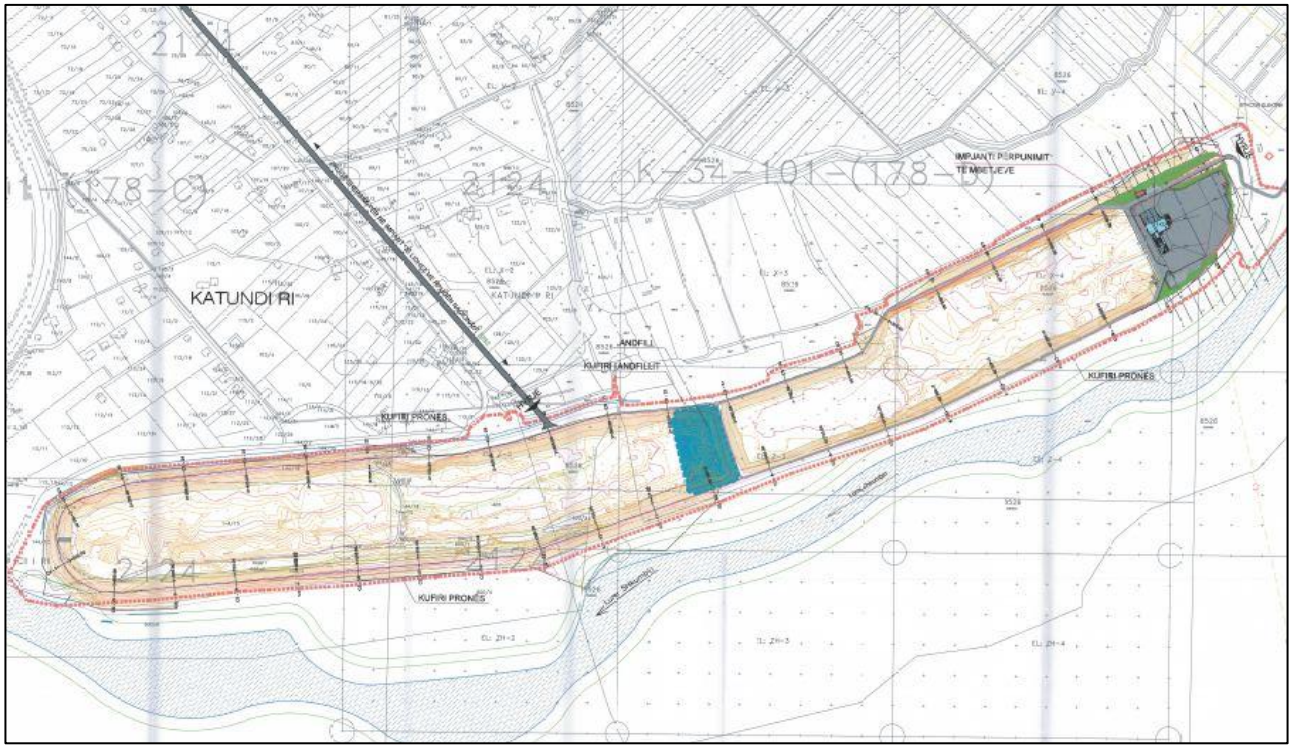


Fig 7 15 Construction site layout of Waste Treatment Plant in Elbasan

Based on the evaluation report and regulation document, the project predicts:

- The municipality property made available has an area of 431 720 m^2;
- The surface of the construction site of the Energy production plant is 16 000 m2, of which 2 000 m2 is occupied by the plant building.
- The landfill where unusual urban waste and ash after burning will be deposited, has a surface of 10 000 m2;
- In the utilization phase is planned to be produced around 17 250 MW/year;
- Has a capacity of 120-140 ton solid waste processing;
- Waste processing is expected to provide about 400 tons of scrap and plastic per year, of which an estimated annual income of 90 thousand euro is estimated.;
- Advantages not only for Elbasan but also on a wider scale. On one hand, a serious problem is solved for the country, collection of waste and from the technological treatment there will be benefited also green energy.

The project also envisages the creation of a green belt around the dam and is estimated to have an impact on the local economy.

Fig 7 16 View from Elbasan landfill, part of Solid Waste treatment plant

Fig 7 17 View from Energy production plant, Elbasan

Data referred by the Working Group at the local level:

From seven municipalities that are part of Elbasan region, four of them require rehabilitation of a dumpsite. Despite the presence of the Urban Waste Treatment Plant (UWTP) in Elbasan, this requirement from municipalities is mainly based on the existing state of the road infrastructure (distance from city centers to UWTP) and consequently the increase of cost of transport for waste disposal there.

Elbasan Municipality refers 5 deposit sites and from dldp expertise that supports MTE is added one more dumpsite from the former MUD platform. As a major measure, in these dumpsites is planned waste removal or closure in UWTP. Mostly the relocation is proposed for those dumpsites that are near the surface water ponds.

Cërrik Municipality currently deposits the waste at UWTP Elbasan and consequently for each of the 5 reported dumpsites there is provision for the removal of waste. Based on this scenario, the Workgroup in the municipality has compiled the cost of removing waste by calculating and the accurate distances from UWTP Elbasan. In the validation process, after some objection of the municipality regarding Recommendation Report and intervention costing, new BoQ were prepared by the consultant.

Gramsh Municipality, refers as a dumpsite for rehabilitation only that of Mashan village. We recall that the old dumpsite of Gramsh municipality was included in the list of infrastructures flooded by the construction of HDP Devoll (Hydro-Power Dam). Under these conditions, by a decision of the City Council No. 10, dated 10th.02.2016, "For the closure of the current dumpsite of urban waste and approval of the new dumpsite of urban waste of Gramsh" the dumpsite of Mashan village is now operational. The request for rehabilitation comes as a result of the above decision, that has simply defined the position (parcel) where the waste will be disposed, by respecting the condition of being outside the reservoir formed by HPD Devoll, but there have been no due works to build a controlled sanitary dumpsite.

Belsh Municipality refers one dumpsite and considering the distance and cost of waste transportation at UWTP Elbasan, requires its rehabilitation, in order to continue its mid-term utilization, until a the final solution.

The dumpsite is located on a public parcel of 2 000m², at Trojas village, a place called Shkëmbi i Zekthit. The relief is sink shaped, whose end is leveled with compacted clay. From field observations there are no sources of underground waters near the dumpsite and it is also worth noting that there is no dense vegetation.

Peqin Municipality has presented a dumpsite and considering the distance and cost of waste transportation at UWTP Elbasan, requires its rehabilitation, in order to continue its mid-term utilization, until the final solution.

According to data from the working group at local level, the Urban Waste dumpsite in Peqin Municipality is approved with MCD and is in process for Environmental Permit approval. The dumpsite is 680m away from residential areas and 1 680m away from the city center. The distance from Shkumbini river is 2 310 m, therefore there is no visible surface water pond pollution. The dumpsite is located in Proger village and has a surface of 7000m2. As one of the municipalities assisted by GIZ, for the waste management sector, all proposed measures and costing matched the donor expertise.

Librazhd Municipality refers only one dumpsite at Rrypzat e Lushit and the measure it proposes is the waste removal.

This dumpsite is in the edge of a stream where the side parts are high slopes that make access very difficult. In the lower part is built a gabion damn to keep waste from falling into the stream. The steep angles of the slopes do not allow intervention measures implementation for long-term placement, therefore is proposed waste removal.

Përrenjas Municipality refers one dumpsite for closure and one for rehabilitation. The closure dumpsite at A.U of Qukes is positioned at Bushtrica mine. It is active from 2 years and has a distance of 100m from Bushtrica River.

Table 7-10 Intervention and dumpsite costing at Elbasan Region

No.	Municipality	Name of dumpsite	Intervention	Cost of intervention (ALL)
1	**BELSH**	Shkëmbi Zekthit	Rehabilitation	3 404 388
2	**CËRRIK**	Cërrik	Removal	8 541 711
3		Gostim	Removal	8 447 009
4		Mollas	Removal	1 975 993
5		Klos	Removal	2 306 190
6		Shales	Removal	1 758 148
7	**ELBASAN**	Urban Waste Treatment Plant (UWTP)	Legal	
8		Pisha, Çame neighborhood	Removal	3 666 600
9		Muriqan	Closure	1 298 137
10		Vidhas village, Lapidar	Closure	2 324 344
11		Kusha	Removal	5 836 194
12		Balez, Road to Funar	Removal	64 239
13		DS from MUD 1 (waste former metallurgy)	Removal	27 376 650
14	**GRAMSH**	Mashan village	Rehabilitation	14 592 842
15	**LIBRAZHD**	Rrypzat e Lushit	Removal	3 556 040
16	**PEQIN**	Dumpsite 1	Rehabilitation	3 245 282
17	**PËRRENJAS**	Qukës	Closure	814 936
18		Krastë	Rehabilitation	8 250 898
Total Cost for Elbasan Region				**97 459 601**

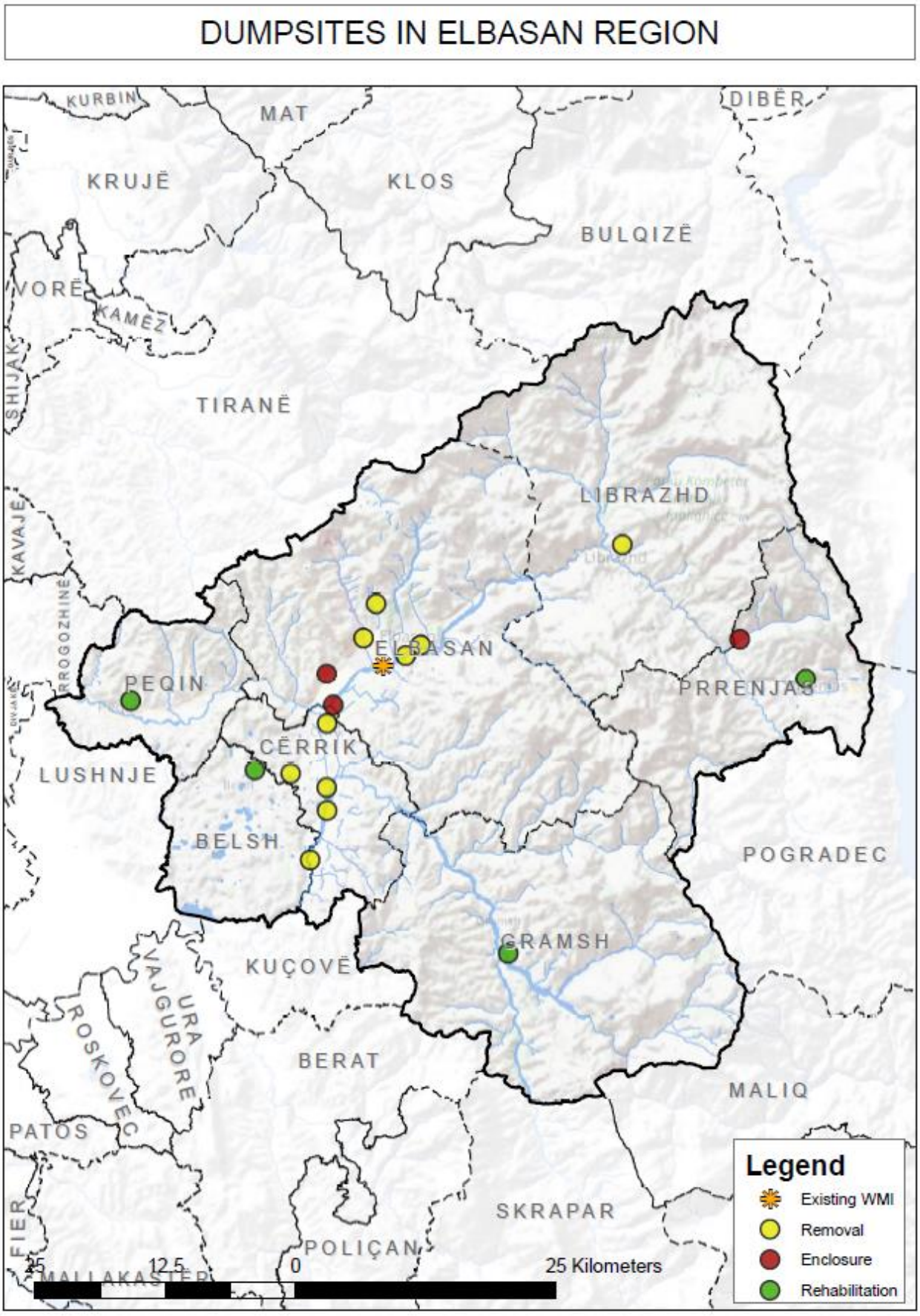


Fig 7 18 Dumpsites in Elbasan Region

7.10. Fier Region

Depositing of the waste coming from Fier Region municipalities is done mainly in illegal dumpsite, that most of the times are filled beyond their capacities. Each of the municipalities has at least one improvised dumpsite that is out the standards, regarding environment and hygiene-sanitary ones. Their location near the surface water ponds raises further the concern towards environmental issues these dumpsites are posing.

The new regional plant, for urban waste treatment for the Fier Region is approved with Decision of NTC No. 15 dated 16.10.2017 "For the approval of the construction permission "Construction and administration of urban waste treatment plant of Fier Region and energy production"", located in Fier Municipality.

This PPP contract was awarded to the company "Integrated Technology Waste Treatment Fier" sh.p.k. which will develop this Project.

The Project, proposes a combined solution for the integrated urban solid waste management on Fier Region. Technical proposal includes the construction of the plant for urban waste treatment by reusing them to produce energy and construction of a landfill. Both developed within one area, located at the territory of Verri village, AU Mbrostar of Fier Municipality.

The technological solution of the project is represented from a plant that produces electrical energy from solid urban waste burning, as their state when deposited or after have been preliminary selected.

The plant power is foreseen 3.85 MWe and will be distributed among national electrical energy network. Its connection point with the network will be at 35kV transmission line "Line 30-51 Jagodinë-Libofshë", which passes nearby plant area, parallel to the Fier-Lushnjë highway.

The surface of the area where it will be constructed is 11.15 ha and for the final selection of the location are considered the soil features and the need for any extra space during unforeseen situations.

This terrain, in the proximities of Verri village AU Mbrostar, with the usage destination "agricultural land" is a public property based on DCM No. 951, dated 28.12.2016 "For the property compensation for the public interest, to the owner of real estate, private property affected from the Project "For the Construction and administration of urban waste treatment plant of Fier Region and energy production" and the Landfill as an aid to this process".

Data referred by the Working Group at local level:

Divjakë Municipality has reported four dumpsite locations (Gur, Gradisht, Grabian and Tërbuf) and another dumpsite is added from the map of the former MUD. In none of these dumpsites are fulfilled the required criteria and legal-technical standards. Divjakë Municipality has 5 administration units and the generated waste are managed and

transported from the public service company of this municipality. During 2014, Divjakë Municipality has requested (addressed to form MUD) to create a new dumpsite away from inhabited areas and outside the protected area, but no concrete action was made for this request. Under these circumstances Municipality asks for rehabilitation of Gur dumpsite, hence its operational lifetime extension till a final solution is made. Gur dumpsite is approved with Decision of Remas AU No.90 date 10.03.2014. For this dumpsite that has a surface of 3 500 m^2 is requested the environmental permission but that request was rejected. It should be considered that Gur village dumpsite is within the [protected area with DCM No. 687 date 19.10.2007 "For stating, with an extend surface, of the natural ecosystem Divjakë-Karavasta a "National Park"". Thus. This dumpsite should be closed and rehabilitated because is located between two hills that attractive for the tourism. The waste is ordered in a forestall surface, which location is under any careless fire threat. The waters filtered from the waste discomposure are an infection source because they stream towards Karavasta lagoon through the draining channels.

Gradishtë dumpsite is located at the substation nearby Myzeqe Collector [to locals - emisar]. It lays far from the inhabited areas but leachates end up to the Collector and through it stream to the sea. The waste is unordered along all the field length. This dumpsite is implemented without environmental permission and was rejected. The dumpsite has a surface of 1 000 m^2, is not fenced and does not have the minimum signaling tables. The working groups decided that this dumpsite should be closed because it does not match the minimum required technical criteria.

Tërbuf dumpsite is located near the Cermë Sektor village closed to the Tërbuf irrigation collector. It has a surface of 3 400 m^2 and is approved with Council Decision of Cermë Sektor AU No. 4 date 30.03.2001. For this dumpsite was applied for environmental permission, but it was rejected since it did not complied the needed criteria. The waste heap has arrived till the connection road Cermë Sektor - Tre Ura because they are placed unordered on the dumpsite. The waters filtering from decomposing waste flow till the nearby water collector that is used for agricultural irrigation which streams then further to the sea. This dumpsite is not fenced and presents concerns regarding sporadic fires during summer season.

Grabian dumpsite is located aside the road Grabian-Ferras, with a surface of 1 375 m2, approve with the Council Decision of Grabian AU no.17 date 23.12.2012. The dumpsite is not fenced and very close the inhabited buildings. The waste is placed not in order, the polluted water streams on the road and finishes on the nearby irrigation channel. In this dumpsite are missing the minimum signaling tables. This dumpsite represents a source of sporadic fires and infections. The working group had judged that this dumpsite should be closed.

For the dumpsite shown on the former MUD map, it is recommended the removal and the terrain rehabilitation.

Fier Municipality has a main dumpsite the one located in Sheq i Madh neighborhood, 4 km away from Fier city center, on the left side of the road "Teodor II Muzaka". Improper location because, very near to Gjanica river, Roskovec-Hoxhar collector, close to inhabited areas and the railway turns this dumpsite into a environmental threat for the population and for many other aspects. Following are given several technical data brought from the working group for this dumpsite:

- surface of 6.2 ha;
- quantity deposited in the dumpsite is 60 312 ton/year. From this waste, during the 2017, 49 731 ton/year was generated only from the urban areas of Fier city.
- inert waste quantity 8 833 m^3/year.
- the differentiated waste collection is not implemented.

In the municipality territory are referred other 9 dumpsites as well, which are located within this administration unit serving as transition spots for the waste until they are displaced at the dumpsite described above. The working group nearby Fier municipality, in their Reports, simply describe these dumpsites existence but does not give any exact geographic references of where they are located. Their reports request also these dumpsites closure, because the operation conditions does not comply the minimum criteria and most of the cases are located nearby collectors, channels that are used for agricultural irrigation.

On the planform of former MUD, there are referred also 3 other dumpsites that are added to the Fier dumpsite list from the consultant company. It is not clear whether these 3 dumpsites fit to any of the 9 dumpsites described from the working group.

Lushnjë Municipality reports 4 dumpsites (Lushnjë city, Dushk, Krutje, Bubullime-Gjonas).

Lushnjë city dumpsite is actually a very bad technical and environmental conditions and also near inhabited areas. This dumpsite started with Council Decision of Lushnjë municipality No. 107 date 21.07.1983. Access infrastructure to the dumpsite is not adequate, operation criteria are missing related to the waste placement in order and does not have proper draining network to discipline the surface waters. The fencing and singing is missing as well. For this dumpsite was requested the environmental permission and was rejected because during inspection were reported all the above issues. The working group recommends that this dumpsite should continue its operability due to its very big capacity, its proximity to road infrastructures and lighter interventions compared to the other dumpsites.

Dushk dumpsite has a surface of 4 000 m^2 and was approved with Council Decision of Dushk municipality No. 04 date 31.01.2012. It is located far from the inhabited areas but very close to the highway and the railway. Its impact on the underground waters makes this dumpsite as a pollution source for the agricultural lands around. Taking into account its already exhausted capacity this dumpsite is fit to be rehabilitated.

Krutje dumpsite, with a surface of 8 500 m^2 was approved with Council Decision of the municipality No. 07 date 16.03.2007. The dumpsite is located in a field-muddy area, away from the inhabited areas. Because this location is situated in a terrain under the sea level, it is subject of potential overflooding. It is a pollution source to the surface and underground waters. The condition of the deposited waste is very critical.

Bubullimë-Gjonas dumpsite with a surface of 2 000 m^2 was approved with Council Decision of the municipality No. 237/1 date 17.05.2012. It is located on the field areas far away from inhabited areas but very close to the agricultural lands that are used from the local farmers. Generally it can be considered with a low capacity. It should be mentioned that close to this dumpsite there is an active oil well, but surrounded and secured from respective authorities.

Mallakastër Municipality reported only one dumpsite in Kash village. This dumpsite was approved with Council Decision of Mallakastër municipality No. 30 date 24.10.2012 and has a surface of 5 000 m^2 and capacity of deposit waste for 10 000 m^3. The dumpsite is fenced and in some part presents potential soil sliding failures. This dumpsite received environmental permission of type C with No. 2123 date 12.08.2016. For this dumpsites is recommended rehabilitation and its operation continuity since it is the only one in the municipality territory. It should be mentioned that this dumpsite is situated on a sloped terrain, thus making it impossible to order properly the waste and requires a bearing wall to counteract the sliding phenomena.

Patos Municipality reports two dumpsites for urban waste which are: main dumpsite in Mazarent and the secondary one in Zharrës. Actually those dumpsites are out of the minimal standards required rom these type of facilities.

Patos municipality reports that it has a feasibility study and based on it, there exists a technical project for a new dumpsite construction. Despite that fact, until this project is implemented, it is recommended that the rehabilitation of the existing two dumpsites should be done, so that they can offer the optimal functionality during their transitory phase.

Roskovec Municipality reports only one dumpsite, and is located very near to the inhabited area making even worse the air pollution problem in Marinëz village. The existing dumpsite in Marinëz village is built with the Council Decision of the former Kuma municipality in 2013, and has a surface of 10 000 m^2 and a capacity of 10 000 - 15 000 m^3. This dumpsite received environmental permission of type C with No. 150 date 27.01.2017. Since it is possible to deposit the waste in another location, Roskovec municipality recommends the rehabilitation of this dumpsite and to extend its usage until e permanent solution is given.

Table 7-11 Intervention and dumpsite costing at Fier Region

No.	Municipality	Dumpsite name	Intervention	Intervention cost (ALL)
1	DIVJAKË	1-Gur Remas	Rehabilitation	6 016 699
2		2-Gradisht	Closure	2 663 769
3		3-Terbuf	Closure	3 328 845
4		4-Grabian	Closure	1 434 101
5		former MUD Dumpsite 1	Removal	2 718 474
6	FIER	1-TEODORI 2 MUZAKA	Rehabilitation	27 454 798
7		former MUD Dumpsite 1	Removal	717 289
8		former MUD Dumpsite 2	Removal	5 604 229
9		former MUD Dumpsite 3	Removal	3 434 197
10	LUSHNJE	1-Lushnje	Rehabilitation	26 859 511
11		2-Dushk	Closure	4 218 087
12		3-Krutje	Closure	6 568 966
13		4-Bubullime-Gjonas	Closure	1 704 831
14	MALLAKASTËR	1-Kash Mallakastër	Rehabilitation	6 671 132
15	PATOS	2-Mazarent	Rehabilitation	7 054 921
16		1-Zharrez	Rehabilitation	8 150 784
17	ROSKOVEC	1-Marinëz village	Rehabilitation	5 601 465
18		Gropa ekologjike Luar	Not built yet	
19		former MUD Dumpsite 1	Removal	1 679 170
Total cost for Fier Region				**121 881 268**

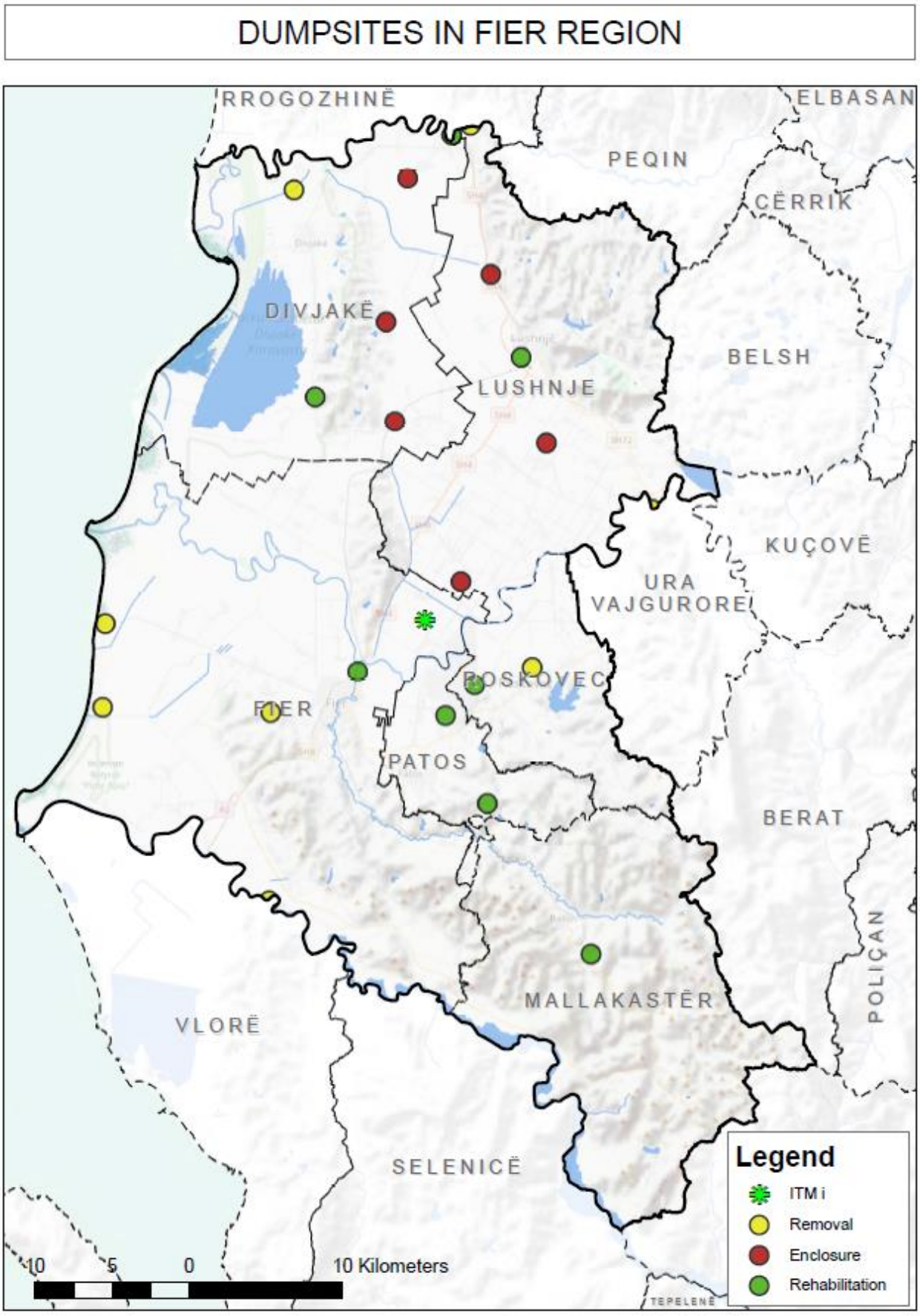


Fig 7 19 Dumpsites in Fier Region

7.11. Berat Region

Berat Municipality reports that there are 3 landfills in their administrative territory, from which only one is approved from Municipality (functioning as such since 1980) and the other 2 are completely illegal (mainly for inert waste). From the working group it is recommended these 2 illegal DS should be closed.

Considering the proximity with Osumi River and the inhabited areas, it is recommended the closure even for the Municipality dumpsite used for municipality urban waste, regardless that there is not any other dumpsite available to be used for waste depositing.

Kuçova municipality refers one dumpsite for urban waste and one for inert waste. The urban waste dumpsite has an area of 27 000 m2 and is located 4 km from Kuçova city. The minimum distance from Devoll River is 25 m. The estimated amount of waste deposited in this dumpsite is 200 160 tons (it operates as a landfill for about 30 years). Because it is located in an area with very high flooding risk, it is necessary to build a 400 ml flood protection dam. Also, in order to avoid major environmental and population related risks it is needed: collecting and irrigating waters and gas coming from drainage, fence construction of 700 ml. This dumpsite has no environmental permits, construction permits or different technical and legal decisions.

The dumpsite of inert waste has a surface of 17 200 m2 and is located 1,2 km from Kuçova. Generally, this dumpsite is not present a major environmental or population risk because it has only inert waste. The working group recommends partial rehabilitation that can be implemented es well from the municipality itself.

Poliçan Municipality reports 8 dumpsites, 2 of which are approved from Local Councils and the others are completely illegal. It is worth mentioning that all illegal dumpsites in this municipality territory are of inert waste (waste deposited are generated by rock elaboration companies). For both dumpsites, respectively 2 600m^2 and 2 000m^2, both located in Plirez neighborhood of Poliçan town, working group recommends their rehabilitation.

Skrapar Municipality reports through its working group two dumpsites, dumpsite Çorovodë 1 and Çorovodë 2 as the main used dumpsites. For the Dumpsite Çorovodë 1 in 2014 were implemented some rehabilitation works, but the estimated capacity was not enough comparing to what municipality needed after the administration territorial reform. Actually this dumpster is used for inert waste. Because in that situation, in 2016, was opened the dumpsite Çorovodë 2 for urban wastes in order to leave the existing one only for inert waste depositing. Çorovodë 2 dumpsite, regardless it was implement in 2016, does not meet the minimum technical requirements (there was not any study nor technical project). Because there is no other possible solution, working group recommends to extend Çorovodë 2 dumpsite lifetime for a transitional period of 3-5 years, by rehabilitating it.

While other dumpsites (3 ones) in Skrapar municipality are inert waste dumpsites generated from waste disposal of some private companies for which the municipality proposes the waste removal and this area rehabilitation. One of these dumpsites is located in the protected area, Bogova Managed Reserve, protection Category IV, while the other is in Osumi canyons (which are not a protected area but represent a tourist attraction).

Ura Vajgurore Municipality has a functional dumpsite for urban waste and a dumpsite for inert waste. For the urban waste dumpsite there is a geological-engineering study, environmental permit and an approval of the Council Decision. This landfill will continue to be used, until the construction of a sanitary landfill dumpsite at regional level. For this dumpsite, Ura Vajgurore Municipality has requested to be implemented the need for rehabilitation measures. The other dumpsite approved by the Municipal Council Decision, is used for inert waste, and the municipality reported the need to implement its fencing and some other minimal necessary measures. The other two dumpsites reported by the working group are dumpsites generated by residents after permanently depositing there waste (respectively one for urban waste and the other one for inert waste). For these dumpsites is recommended the waste removal. At these illegal dumpsite Ura Vajgurore Municipality continuously carries out waste cleaning works, but it is also needed people's sensitization to stop through waste there.

Working group refers another dumpsite which is an abandoned one, reported as closed, and on that case are requested only works for re-forestation of the area.

Table 7-12 Intervention and dumpsite costing at Berat Region

No.	Municipality	Dumpsite name	Intervention	Intervention cost (ALL)
1	BERAT	Dumpsite 1 Dushnik	Closure	10 345 567
2		Dumpsite 2 Çlirim Neighborhood	Closure	2 277 878
3		Dumpsite 3 Qendra Lira	Closure	5 571 345
4	KUÇOVË	1-former Partizani Farm	Rehabilitation	12 548 922
5		2-Gropat e bitumit, Former UPN	Rehabilitation	12 953 420
6	POLIÇAN	Dumpsite 1	Removal	596 178
7		2- PLIREZ Neighborhood	Rehabilitation	5 051 777
8		3- PLIREZ Neighborhood	Rehabilitation	4 974 570
9		Dumpsite 4	Removal	1 982 431
10		Dumpsite 5	Removal	605 866
11		Dumpsite 6	Removal	2 085 239
12		Dumpsite 7	Removal	2 160 602
13		Dumpsite 8	Removal	3 438 175
14	SKRAPAR	Dumpsite Bogova 1	Closure	3 809 648
15		Dumpsite Bogova 2	Closure	1 040 118
16		Dumpsite Çorovodë 1	Rehabilitation	3 339 123
17		Dumpsite Çorovodë Urban waste	Rehabilitation	4 772 557
18		Çerenisht	Closure	582 960
19	URA VAJGURORE	1- Vokopolë Village	Rehabilitation	3 648 608
20		2-Sqepur Village	Removal	152 309
21		3-Kuç Village	Removal	799 805
22		4- Former Dumpsite	Tree planting	964 585
23		5- 28 Nëntori Neighborhood	Rehabilitation	1 285 586
Total cost for Berat Region				**84 990 269**

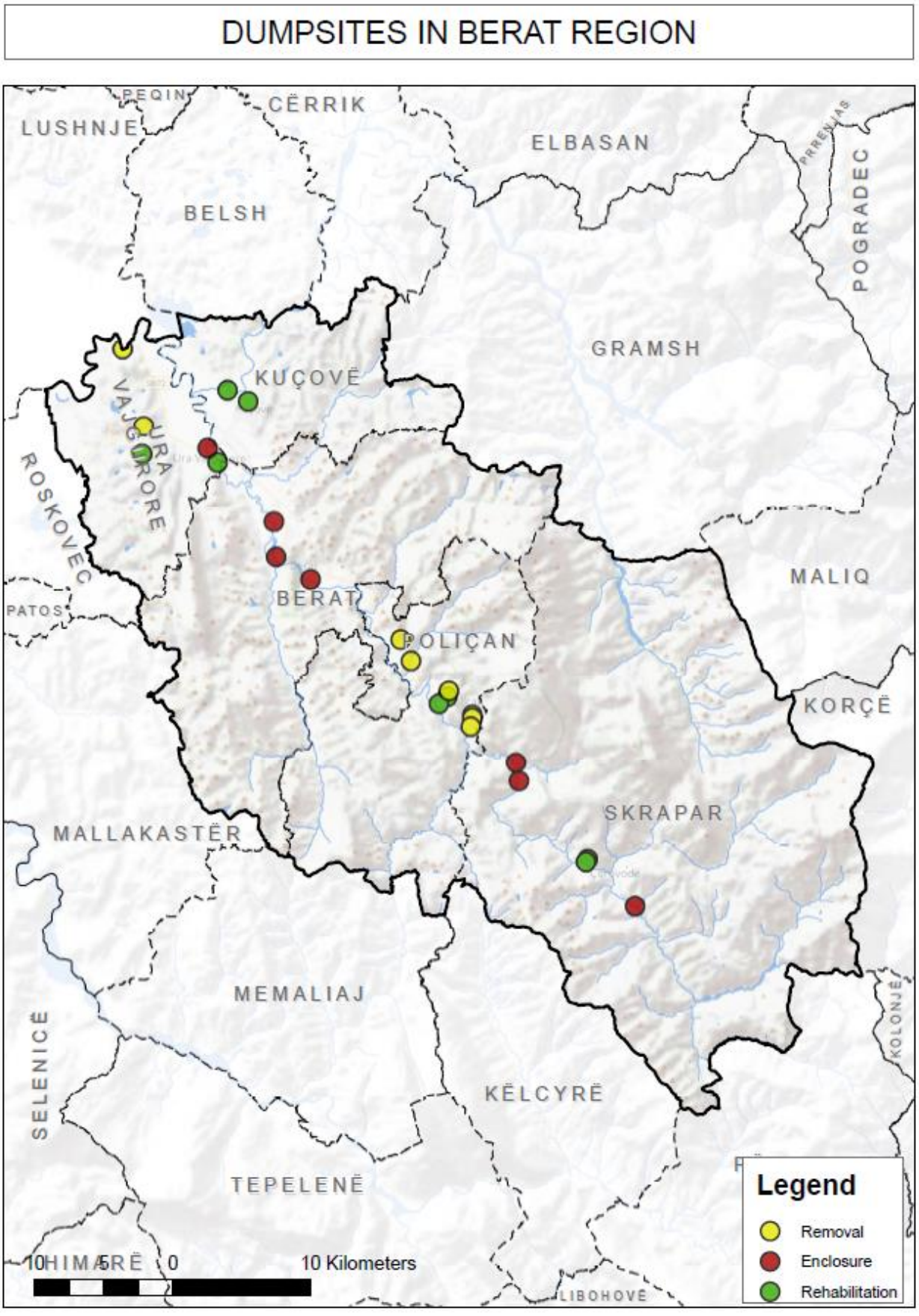


Fig 7 20 Dumpsites in Berat Region

7.12. Korçë Region

In the years 2003-2005, with the initiative of Korça Municipality, started the Feasibility Study in order to find a solution on regional waste management, financially supported by the German Government through the German Development Bank KfW.

In July 2011, was formalized the financial support of the German Government[31], through the German Development Bank KfW, for the implementation of Solid Waste Management project in Southeast Albania at the amount of Euro 11.8 million. This agreement is ratified by law in 2013[32]. The project consists of:

1. Construction of a regional sanitary landfill in Maliq,
2. Construction of 3 transfer stations (Pogradec, Devoll and Kolonjë) and necessary equipment,
3. Tools and equipment for improving the existing waste collection service and for pilot activities for recycling/composting.

Fig 7 21 View from the landfill of Maliq

[31] DCM Nr.567, date 3.8.2011 "On the approval of the agreement between the Council of Ministers of the Republic of Albania and the Government of the Federal Republic of Germany on financial cooperation r 2004, 2008, 2010, for the project "Waste removal in southeastern Albania""

[32] Law No. 102/2013 "On the ratification of the loan and financing agreement, and project between the Republic of Albania, represented by the Ministry of Finance of the Regional Solid Waste Management Corporation of Korça (KRWM) and KfW Frankfurt am main for project financing "Solid Waste Management in Southeast Albania""

The following are some of the technical data of the sanitary landfill project of Maliq:

- Approved with Decision NTC No.12, dt. 04.07.2013 "For the approval of the complex development permission for the construction of the urban waste disposal site in the town of Maliq, Korça Region"
- Construction of a sanitary landfill will serve the municipalities of Korça region for a period of about 20 years. Recycling and composting may prolong the usage time.
- The landfill in total has an area of 19.5 ha, of which 7.37 ha will be used for waste disposal. His overall capacity will 1 046 000 m^3.
- In addition to the waste depositing area built with insulating layers to protect soil and water, sanitary landfill includes systems for collecting and treating drained water and released gases, as well as staff buildings, weight building, garages, and warehouses, etc.
- Sanitary dumpsite is built in accordance with EU standards and managed by KRWM sh.a. under the supervision of domestic and international specialists.
- The organization of a regional system will enable waste transport from all municipalities toward this dumpsite. Municipalities: Pogradec, Devoll and Kolonja due to greater distance will use transfer stations for temporary collection of waste.

In the first steps of project implementation of, in all the administrative units of Korça District began a rehabilitation process and in some cases closure (encapsulation) of the existing landfill sites. The lack of the later operating conditions made this investment, in some cases, not to have the desired impact and in a short period the situation deteriorated again.

We emphasize that all the built infrastructure (sanitary landfill, three transfer stations etc.) for integrated waste management in this region, is in the final steps for obtaining proper permits and will soon begin its operation.

Waste management in Korça District

In June 2008, "Korça Region Waste Management" (KRWM sh.a.) Company was established, including the agreement of 28 local units (at that time 5 municipalities and 23 municipalities) for the construction of a joint management system of solid waste in Korça Region. Currently, after the entry into force of the Territorial Administrative Reform in 2015, KRWM sh.a. has 6 main shareholders, namely municipalities: Korça, Pogradec, Maliq, Kolonja, Devoll and Pustec.

In order to carry out its activities, KRWM sh.a. has built a waste management system that will be economically affordable and not harmful to the environment by applying the best techniques and acting in accordance with the regulations, strategies, national and local plans for waste management.

Data referred by the Working Group at the local level:

In this region are reported 19 dumpsites.

Korça Municipality: Regarding the four dumpsites referred by the Working Group, the municipality does not administer any documentation such as: municipal council decision, building permission, technical studies or environmental permit.

Waste management in Korça is still limited and insufficient. Municipal wastes have a high percentage of organic wastes and no recycling method is used to reduce their deposit amount sent at dumpsites.

The waste dumpsite in Korça has started functioning 35 years ago. In this dumpsite, are collected different type of waste, including urban waste. Currently, surface waters accumulated in a drainage pond but are not treated at all. In the case of dense rainfall, polluted water goes flows towards a potable water source, a few hundred meters away. Thus, posing a serious threat to the health of the local population.

Taking into consideration possible influences of Korça dumpsite, it can be concluded that it is necessary to undertake urgent measures for the rehabilitation of the dumpsite area. In addition, after the closure of this dumpsite, it is necessary to fully re-cultivate its area and to monitor the impact on the environment.

The dumpsite in Voskopoja A.U is located along the Voskopoja - Shipska road, about 3 km from Voskopoja administrative unit. Near the dumpsite passes the river. Voskopoja is a protected area for its Monuments of Culture with DCM. It is also a touristic area. It needs closure and rehabilitation.

Dumpsite in Bulgarec A.U is located approximately 800 m away from the administrative unit. It is a dumpsite with different waste (residues from different products that villagers no longer use, excesses, spoilage of agricultural products and other wastes). It needs closure and rehabilitation

Pogradec Municipality reports two dumpsites. Both of these dumpsites are in a very bad condition and require immediate intervention. They are without fencing or any other measures for the collection and processing of polluted waters. The lack of fencing makes it easier to dispose waste from the wind causing more pollution to the area, and access to these dumpsites from various animals brings the risk of disease spreading. The municipality proposes the closure of the two dumpsites by taking measures specified in the methodology. In Pogradec Municipality, for the "Cluos Luadhi" dumpsite is administered only the environmental permit of Type C "Transfer Station for Non Hazardous Waste" issued on 29.10.2014 by the Ministry of Economic Development, Trade and Entrepreneurship. While the "Shtroi i Shtogut" dumpsite has no documentation.

Maliq Municipality reports three deposit sites (Sovjan, Zvezda and Maliq). Maliq Municipality indicates the closure of the three deposit sites due to the risks that each of them presents, in relation to the population and the environment. With regard to these dumpsites, no technical or legal document is administered by the municipality.

Pustec Municipality has five dumpsites in its territory. It should be quoted that this municipality is all included in Prespa National Park declared as National Park with DCM no. 80 dated 18.02.1999. This municipality is intended for Rehabilitation for the further use of only one dumpsite (dumpsite in Pustec). For all four deposit sites (Zrnosko, Tuminec, Dolna Gorica and Gorna Gorica), the municipality wants the waste removal, rehabilitation of the area and its forestation as well as the residents' awareness of not throwing waste in these locations. In Pustec Municipality, is administered the Decision of the former Commune Council of Liqenas No. 25, dated 29.02.2012 for 5 (five) dumpsites. There is no other documentation, such as environmental permit or technical studies.

Kolonja Municipality refers two deposit sites (Leskovik and Erseka). This municipality requests the rehabilitation of the Leskovik dumpsite and its further utilization for a transitional period up to the total removal of waste at waste transfer station which will serve as a transit one to later send the waste to the sanitary landfill of Maliq. To ensure a normal functioning of this dumpsite during this transitional period, are required rehabilitation measures such as dumpsite fencing and drainage measures for surface water collection. As for Erseka dumpsite this municipality requests its closure and rehabilitation of the area. The fact that this dumpsite is located in an area of tourist attraction makes it important to rehabilitate its surface. In the Municipality of Kolonjë, no documentation is administered, such as council decision, construction permit, technical study or environmental permit for 2 (two) dumpsites referred in this platform.

Devoll Municipality has reported 3 dumpsites (Bilisht, Miras and Baban-Stropan). This municipality requests the closure of Bilisht dumpsite, which covers an area of 2 hectares, but its closure will be done after putting into operation the waste transfer station. This dump site is located at 850 meters from the Bilisht-Korçë axis.

For the dumpsite near the Baban-Stropan village, which is located in an area of 500 m2 and a distance of 300 ml from the Baban Village, near to the local road Baban-Stropan, it is recommended to be cleaned and planted as well as to sensitize the community not to use it as a dumpsite any more.

In Devoll Municipality no documentation is administered for all the 3 (three) dumpsites referred.

Table 7-13 Intervention and costing of dumpsites at Korça Region

No.	Municipality	Dumpsite name	Intervention	Cost of intervention (ALL)
1	DEVOLL	Gurët e zinj	Closure	3 893 558
2		Miras	Closure	1 734 997
3		Baban-Stropan	Closure	152 838
4	KOLONJË	Erseka	Closure	3 660 949
5		Leskovik	Rehabilitation	5 610 219
6	KORÇË	Korçë	Closure	23 126 282
7		Bulgarec	Closure	6 337 772
8		Mollaj	Closure	784 140
9		Voskopoja	Closure	698 251
10	MALIQ	Sovjan	Closure	2 067 486
11		Maliq	Closure	7 621 517
12		Zvezda	Closure	6 862 766
13	POGRADEC	Luadhi i Çelos	Closure	637 716
14		Përroi i Shtegut	Closure	15 648 305
15	PUSTEC	Zrnosko	Removal	316 164
16		Dolna Gorica	Removal	117 228
17		Gorna Gorica	Removal	259 520
18		Tuminec	Removal	207 984
19		Pustec	Rehabilitation	4 261 711
Total cost for Korça Region				**83 999 403**

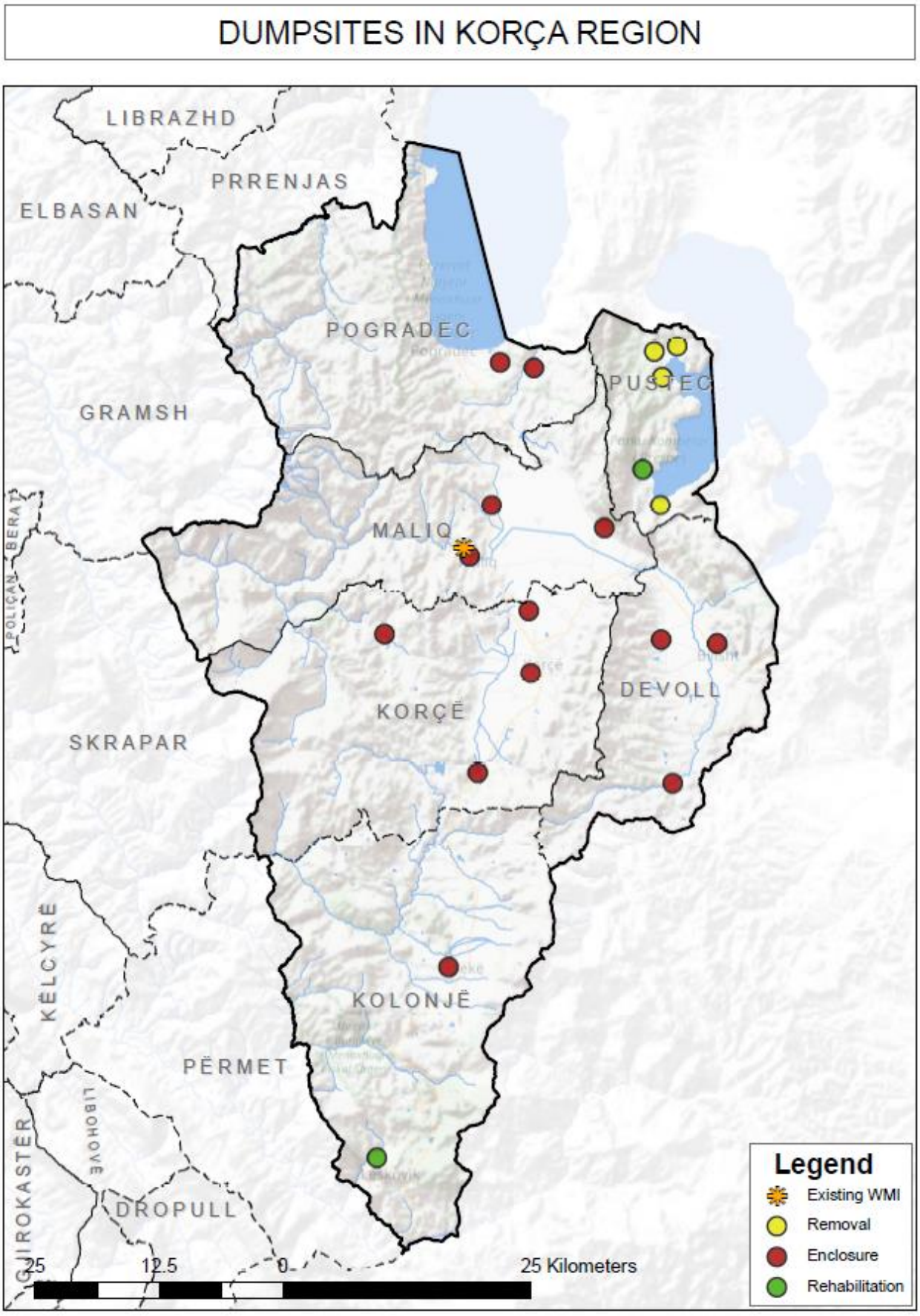


Fig 7 22 Dumpsites in Korçë Region

7.13. Vlorë Region

Considering the tourist and natural values of the South Coast it can be stated that Vlora Region has had constant attention and lately also concrete investments which are yielding signs of significant improvement of the waste management system. Currently, Bajkaj landfill has started to operate and it covers mainly the municipalities of Himara, Delvina, Saranda, Finiq and Konispol. Hereunder are listed some technical information regarding Bajkaj sanitary landfill.

This landfill has been approved with NTC Decision No. 37, date. 10.05.2013 "Complex developing permission for urban waste dumpsite in Bajkaj, Vergo Municipality, Vlora Region".

Fig. 7 23 Photo of Bajkaj sanitary landfill

This regional landfill will serve for solid urban waste management in the south coast. The construction phase is currently completed, an investment amount of $ 5.6 million. Some of the technical project parameters of this landfill are:

- has an area of 58 150m^2, with the possibility of extension up to 64 000m^2;
- has a depositing capacity of 365 000m^3;
- has been calculated for a deposit rate of 25 000m^3 waste/year.

Bajkaj Regional Landfill, worth about 7 million euro, is part of the World Bank-funded Project for "Integrated Management and coastal zone cleaning". Infrastructure and rehabilitation of the South Coast's Environment is the most important component of this project. This project has successfully funded the construction of a waste transfer station in Himara, worth 608 504 dollars.

Following the new administrative territorial reform, the facility will serve to the municipalities of Himara, Delvina, Saranda, Finiq and Konispol. Enabling this landfill made possible the closure of existing illegal dumpsites hence serving the entire southern coastal area. Equipped with the water treatment plant, it will maximally reduce underground water pollution. Bajkaj Landfill is estimated to provide collection and integrated waste management for the next 20 years, having a significant impact on this tourist area.

According to official data, the waste quantities deposited from each municipality in this landfill are:

Table 7-14 Generated waste from municipalities deposited at Bajkaj Landfill

No.	Municipality	City center	Waste quantity (ton/year)	Distance from landfill to city enters
1	**Saranda**	Saranda city	24 000	14 6km
2	**Himara**	Himara city	10 500	62 0km
3	**Delvina**	Delvina city	7 200	11 0km
4	**Finiq**	Dermish village	7 000	21 1km
5	**Konispol**	Konsipol city	5 000	46 4km
		Total	**53 700**	

Considering the existing road infrastructure (distance from Bajkaj), the Municipality of Vlora and Selenica continue to use illegal landfills which besides their complete lack of capacity, there are no minimum operating standards and utilization.

For the final solution of this problem, for municipalities of Vlora, Selenica and others around them, KfW will support the construction of a landfill at Sherrishtë, Vlora.

The cost of the project is estimated € 24 350 000 (including complementary measures), which will be financed through the loan agreement of € 12 000 000 and two grants to be approved through special financing agreements (total value of the grants 8 834 862 €). From the 12 000 000 Euro loan funding, 10% will pass to Vlora Municipality in the form of sub-loan, with the same terms as the base loan, while the rest will be given to this municipality, in the form of a grant.

The state budget will cover the local costs associated with land expropriation as well as Project's VAT, which are estimated approximately € 3 500 000.

The agreement for this purpose was approved in principle by the DCM Decision No. 864, date 07.12.2016, and then entered into force after the approval of Law No. 74/2017 "For the ratification of the financing agreement between the Republic of Albania, represented by the Ministry of Finance, (Beneficiary), and KfW Frankfurt am Main (KfW), for Solid Waste Management Program, associated measures (Vlora Region)".

Vlora Municipality refers as its primary dumpsite the one near Vlora city, in a place called "Fusha e Aviacionit". This dumpsite is located very close to Vlora city and is currently surrounded by residential houses. It has an area of about 12.6ha and is very close (5-20 m) to the sewage wasters channel, which flows into the sea. It has a simple fence with 1m height which makes easy accessible from unauthorized persons or house animals. The amount of waste deposited there is 140 tons/day or 51 100 ton/year. A portion of waste which is plastic material is removed from the dumpsite. This dumpsite is proposed to be closed since 2015. It should be noted that this dumpsite is located in the Protected Landscape "Vjosë-Nartë" Zone B, declared a protected area with DCM No. 680 dated 22.10.2004. Given the distribution of the population in the territory of the Vlora Municipality, it should be considered that currently some other dumpsites are used besides the ones cited above.

In the Administrative Unit Qendër, the working group reports three dumpsites: Xhyherinë, Narta and Zvërnec, from which the dumpsite in Xhyherinë is only 50m away from the Vjosa River. during the rainfall period, the increase of the flows causes the river to wipe away some of the waste and transport it to the Adriatic Sea. The working group has requested the closure of this dumpsite, but a proper intervention would be to leave it operational. Also, Zvërnec dumpsite is located within the Protected Area "Vjosa-Narta declared as Natural Protected Landscape".

In the Orikum administrative unit, Fushë Biz and Ishëm dumpsite is reported. It is located southeast of the town of Orikum at a distance of about 380m from the nearest neighborhood, close to the national road Vlorë-Saranda (70m), next to the shore of the Dukati River and 900m from the Adriatic Sea. These are the reasons that often cause problems to the inhabitant's health but also causing damage to the touristic image this area has. Around 9 000tons/year of urban waste are deposited at this dumpsite. Orikum is declared "Priority Touristic Zone "(DCM No. 88, dated 21.04.1993). In the vicinity of the dumpsite lies the protected environmental areas of: RNM Karaburun and Maritime PK Karaburun-Sazan.

Novosela Administrative Unit, reports a dumpsite located inside the village of Mifol. This dumpsite is not fenced and the waste is left untreated. The working group has proposed the closure of this dumpsite, but considering the area is not so big, waste removal results simpler and more efficient. This dumpsite is not clearly defined as a geographic location and may fit with that referred to by the former MUD map in Novosela.

In the Shushica Administrative Unit from the working group are reported two dumpsites: Llakatund and Sherishte. The Llakatund dumpsite is very close to Vjosa River and the possibility (risk) of wiping away the waste to the sea from the river is high. Especially during rainfall seasons, river overflows and streams overflows in the areas occur, and these events happened several times in recent years that caused the waste to be transported to the sea. While the Sherishte dumpsite is located within a residential area.

The working group nearby Vlora municipality, in the context of harmonizing this study with the dumpsites defined by the former MUD map after elaborating their information have added seven other dumpsites at the digital map. For these dumpsites the collected data are mainly mapping information (former MUD and Google). The proposed intervention for all these dumpsites, while worth noting that three of which are near the river banks, is their removal.

Delvina Municipality refers only Bajkaj Landfill as its waste depositing infrastructure, which is not subject of "Dumpsite Risk Mitigation" platform. In this municipality is also added to the list a dumpsite under the aim of fitting also information with the former MUD platform for which Delvina Municipality has confirmed that it is being used for inert and solid waste that are not accepted at Bajkaj Landfill.

Himara Municipality refers only a dumpsite which is no longer used, because it is abandoned since all waste are sent to Bajkaj Landfill. This dumpsite is located near the national road Vuno-Himara. The closure option if implemented with inadequate measures that should be taken in these cases implies an environmental risk associated with waste resurfacing and their sliding due to the sloped terrain, up to the stream and afterwards to the sea. This also affects the risk and causes a negative impact on the local residents and visitors who frequent Himara. Also, from the former MUD digital map are identified another four dumpsites in this municipality, which are relatively small, not with a considerable waste volume, but their removal is presented with great interest since Himara represents a very high attractive touristic area.

Konispol Municipality since Bajkaj landfill construction sends its urban waste there. The working group in this municipality has reported only a dumpsite that is no longer used, but that still needs closure works. Also, in Konispol municipality are identified further three dumpsites from the former MUD digital map for which the municipality has stated that they are no longer used or illegal, thus it is decided the waste removal in two of them and the closure of the third one (due to its vast surface).

Finiq Municipality reports that its urban waste is sent to Bajkaj landfill and there is only one dumpsite being used for depositing the inert and other solid waste that is rejected from Bajkaj landfill.

Saranda Municipality reports a single dumpsite in Volloder, which since 2015 is used only for inert waste. This dumpsite is located near the national road Nivica-Saranda, close to the water source known to locals as "Volloder". It is an unprotected area with numerous waste on the surface. The big slope of the terrain and the presence of surface waters causes the waste to shift and disperse into the surrounding area.

Selenica Municipality produces an average of 1100ton/year urban waste and has reported four dumpsites. The dumpsite in the town of Selenica is located at a distance of 500m from the inhabited center, situated over a farm land which property is owned by Selenica

Municipality. The dumpsite has the shape of a pit with a 2.5m depth and a 20x30m size, and has a fence coated with plastic at its bottom and sides. At the time of inspection, the waste quantity deposited into the pit was estimated as approximately 10% of the its capacity. This dumpsite is approved by the Municipal Council Decision No. 14, date 12.05.2014.

From the former MUD digital platform (DS 1, MUD), in the vicinities of Selenica there is identified another dumpsite. From its proximity to the stream it can be assumed that the waste from this dumpsite are transported from the stream waters towards Adriatic Sea. However, the intervention costs for this dumpsite, are estimated according to data taken from the former MUD map.

The Kocul dumpsite is located near the Kocul-Poçem road, approximately 700m from the residential center of Kocul village. The dumpsite surface is open, without any fencing and situated at the edge of a stream. The area occupied from waste is about 900m². The main risk imposed by this dumpsite is related to its proximity with the stream, which causes waste to be taken away during rainfall season. Nearby this dumpsites area situated also some oil extraction wells. It is important pointing out that this dumpsite is positioned on the other side of the road (DS 2, MUD) according the former MUD map. In this study, these two cases were treated as a single case and the intervention cost (removal) was estimated separately for each case.

The Kotë dumpsite used by Vajzë village inhabitants is located nearby Vajzë-Kotë road. This Vajzë is situated near the residential houses and also near a stream. The waste nature is of urban type. The environmental risk is due to the fact that waste might shift away because of the sloping terrain and also from its proximity to the stream.

The Sevaster dumpsite is located near Vajzë -Sevaster road. It is used by Sevaster village residents and has an area of 500-600m². Environmental risk is related to its position at the edge of a stream, hence a potential risk of waste displacement from natural erosion clearly visible on that area's soil surface. The dumpsite area is unprotected and open, which increases the risk of being accessed by unauthorized persons and farming animals.

Table 7-15 Intervention and dumpsite costing at Vlora Region

No.	Municipality	Name of dumpsite	Intervention	Cost of intervention (ALL)
1	**DELVINA**	Bajkaj Landfill		
2		Dumpsite from MUD 1	Removal	5 379 146
3	**HIMARA**	Dumpsite 17-Bashkia Himara (Vishaj 325)	Closure	5 251 388
4		Dumpsite from MUD 1	Removal	589 588
5		Dumpsite from MUD 2	Removal	240 031
6		Dumpsite from MUD 3	Removal	828 218
7		Dumpsite from MUD 4	Removal	885 657
8	**KONISPOL**	Dumpsite 16 - Konispol	Closure	3 721 361
9		Dumpsite from MUD 1	Removal	629 429
10		Dumpsite from MUD 2	Removal	68 979
11		Dumpsite from MUD 3	Closure	2 494 554
12	**FINIQ**	Dumpsite 14 - Finiq	Closure	481 551
13	**SARANDA**	Dumpsite 15 - Saranda (Volloder)	Removal	529 634
14		Dumpsite from MUD 1	Removal	788 356
15	**SELENICA**	Dumpsite 9 - Selenica	Removal	5 042 467
16		Dumpsite 10 - NJ.A. Vllahinë (Kocul)	Removal	529 634
17		Dumpsite 12 - NJ.A. Sevaster	Removal	427 099
18		Dumpsite 11 - Kote	Removal	243 257
19		Dumpsite from MUD 1	Removal	1 187 532
20		Dumpsite from MUD 2	Removal	508 105
21	**VLORA**	Dumpsite 2 - NJ.A. Center (Xhyherine)	Closure	1 384 764
22		Dumpsite 5 - NJ.A. Novosele	Closure	2 063 655
23		Dumpsite 1 "Vlore"	Closure	65 346 997
24		Dumpsite 4 - Orikum	Closure	12 220 984
25		Dumpsite 6 – A.U. Shushica	Closure	2 455 802
26		Dumpsite 7 - A.U. Shushica (Sherishte)	Closure	1 518 798
27		Dumpsite 8 - A.U. Qendër (Zvërnec)	Closure	778 442
28		Dumpsite 3 - A.U Qendër (Narta)	Removal	981 372
29		Dumpsite from MUD 1	Removal	342 030
30		Dumpsite from MUD 2	Removal	4 449 529
31		Dumpsite from MUD 3	Removal	1 135 516
32		Dumpsite from MUD 4	Removal	1 917 998
33		Dumpsite from MUD 5	Removal	45 854
34		Dumpsite from MUD 6	Removal	722 318
35		Dumpsite from MUD 7	Removal	192 895
Total cost for Vlora Region				**125 328 940**

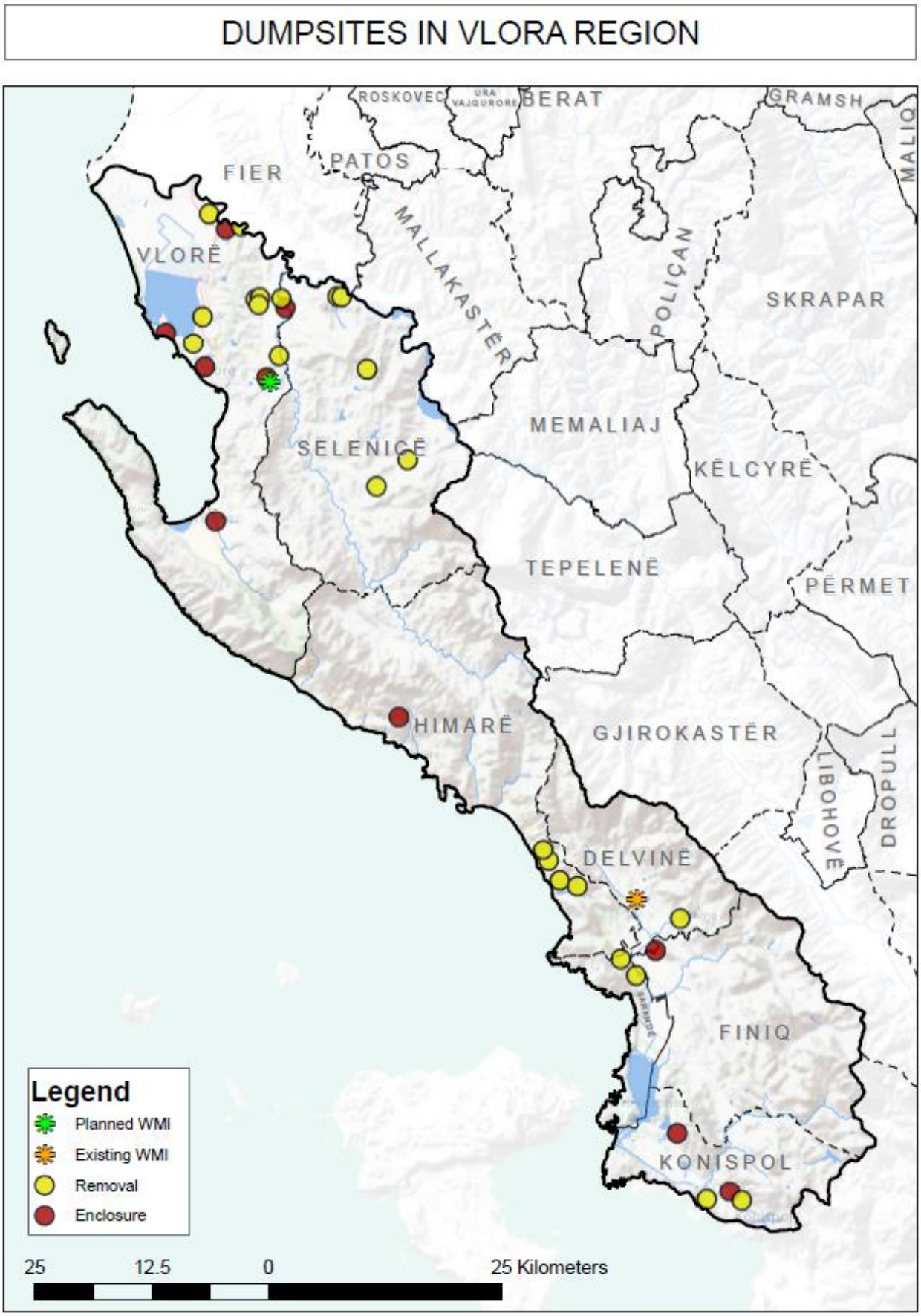


Fig 7 24 Dumpsites in Vlora Region

7.14. Gjirokastra Region

Gjirokastra Region consists of 7 municipalities (Dropull, Gjirokastra, Këlcyra, Libohova, Memaliaj, Përmet and Tepelenë). From the working group in this region are reported 8 dumpsites, more specifically a dumpsite for each municipality with the exception of the Përmet Municipality, where two dumpsites have been reported. Also 5 out 8 dumpsites in this region are located near the rivers. However, because they are the only available dumpsite at each of the respective municipalities, it is recommended the rehabilitation and the continuation of their use, until a proper infrastructure for waste management is built.

Dropull Municipality has as its only dumpsite the one at Glina Bridge, which is located at a distance of more than 300m from the nearest inhabited area and at a distance about 1 km from the national road Gjirokastër - Kakavija. Near this dumpsite passes the Drino River bed (20m distance). There are also irrigation channels for the Dropull agricultural area. Since this area has a field relief, it can be subject of persistent flooding especially during rainy seasons when river floods grow and cause flooding in this dumpsite. The permeability of the soils there is moderate, because the soil structure is a clayey blended with gravel. The dumpsite is stable and there is no risk of collapse or landslide. During the on-site inspections, the working group reported presence of inert waste other than urban ones. The Dropull dumpsite at Glava Bridge is not located in a visible tourist area so it does not endanger the degradation of the surrounding landscape or the tourist values of that area. From the several issues reported for this dumpsite, mainly because of the proximity to the Drino River, the working group recommends the waste removal, despite being the only dumpsite in the Municipality of Dropull.

Gjirokastra Municipality has reported as a single dumpsite in Gërxhë, which has been operational for 15 years. It is located at a distance of more than 600m from the Gjirokastra city and at a distance of about 950m from the national road. Near this dumpsite there are surface water streams, such as one of the branches of Cullos stream, which is active in dense rainfall periods. The distance from the Drino River is about 1.5km while from the natural lake of Viro about 1 200m. Since this area is hilly, there is not flooding risk. This area has high permeability due to the fact that there is gravel composition, brought from the Cullos stream. The dumpsite is stable and there is no risk of collapse or landslide. During site inspections, the presence of inert and urban waste was reported. The Gërhoti dumpsite is not located in visible tourist areas, thus it does not endanger the degradation of the surrounding landscape nor has direct impact on the tourist values of the area. Under this point of view, it is worth mentioning the proximity to the protected area of Viro.

Based on the above reasons, the working group recommends the rehabilitation of this dumpsite.

Këlcyra Municipality refers to the only dumpsite in Varibop, located at a distance of less than 300m from the river Vjosa. There are no upper streams of surface or underground

waters near this dumpsite, including drinking water sources. The area's permeability is average and is composed from clay type soils. The dumpsite is stable and there is no risk of collapse or landslide. The nearest formal inhabited area is located more than 300m away so there is no direct risk of population exposure to potential pollution. The distance from the national road is 500m. During site inspections, the presence of inert and urban waste was seen. Although situated in a hidden position, the proximity of the dumpsite with the Vjosa River indirectly affects and degrades the landscape and tourist values. The working group recommends the rehabilitation of this dumpsite.

Libohova Municipality from 10 years now deposits its waste on Kodra e Doftisë. This dumpsite is located at a distance of more than 800m from the Suhos River and 500m from the Doftisë reservoir. There are no upper streams of potable or underground water near this Doftisë, while the water supply pipeline network of WCG (Water and Canalization Gjirokastra municipality service) is located at a distance of about 300m. The sloping area where the dumpsite is located is not endangered by floods, while the permeability of the terrain there is moderate. The dumpsite is stable and there is no risk of collapse or landslide. The nearest formally inhabited area is Libohova city and Bulo village, and the distance from them is more than 2km. During the site inspections, it was reported that the presence of urban and inert waste was present. The Libohova dumpsite is not located in a visible tourist area, so it does not endanger the degradation of the surrounding landscape or the tourist values of the area. The working group recommends the rehabilitation of this dumpsite.

Memaliaj Municipality uses the Cepi i Janinave dumpsite, which is the only functional dumpsite in this municipality. It is located at a distance of more than 300m from the nearest ihabited area, that is the village of Memaliaj and at a distance about 1km from the national road Memaliaj-Fier. Near this dumpsite, at a distance of less than 300m there is the Vjosa River bed. In this area there are streams of surface waters, namely Janina stream, which continuously flows into the Vjosa river. Near this stream was opened a 10x5x4m pit from Memaliaj Municipality, which would have served as an urban waste dumpsite, but after the in-situ inspection it was reported unused. This dumpsite is situated over stable soils and there is no risk of collapse or landslide and is also not endangered by floods in the Vjosa River (even during the most critical highest flows). The permeability of the area is average and the soil structure is a clayey blended with gravel. During the in-situ visit, it was reported that there was only the presence of urban waste. The Cepi i Janinave dumpsite is not located in a visible tourist area, thus it does not endanger the degradation of the surrounding landscape or tourist values. Under tourist values point of view, only the presence of a designated nature monument can be qualified as such, protected by a DCM, at a distance of approximately 700m. The working group recommends the rehabilitation of this dumpsite.

Përmet Municipality has reported two dumpsites (dumpsite at Brackova and that at the public cemetery of the city). The urban cleaning and waste management service fails to cover the whole territory of the municipality. From this service mainly is covered the Përmet

city, and the centers of administrative units as areas that have considerable population. In many villages, especially those in mountainous areas, this service is not provided. Lack of standards for provision of this service coming from poor human resources, limited financial resources, etc., make this service not qualitative. The municipality needs the vehicles and the complementary infrastructure (waste bins, scales, etc.), but also needs a Waste Management Plan.

Brackova dumpsite is only one the dumpsites used from Përmet Municipality. It is located at a distance of more than 800m from the Vjosa river and very near (approx. 20m) a stream that flows into this river. Near this dumpsite there are upper streams of surface and underground waters. Because the area is hilly-mountainous, there is not risk for flooding. The area's permeability is moderate. The dumpsite is stable and there is no risk of collapse or landslide. From site inspections it is noted that there is only presence of urban waste. The Brackova dumpsite is not located in a visible area and therefore does not endanger the degradation of the surrounding landscape. The negative aspect regarding the tourist value of the area is its proximity to the protected area of Bredhi i Hotovës.

The dumpsite in the area near the cemetery of Përmet city is one of the dumpsite used in the past from Përmet Municipality and at the time of inspection by the working group, was considered non-functional. Located at a distance of 300m from the Vjosa River, near (200 m) the dumpsite also passes the Kajenes stream that flows directly to the Vjosa River. This stream is mostly supplied during periods of rainfall and by mountain slopes filtrating waters while during the summer season it is dry. Because the area is hilly, it there is not the flooding risk. The permeability of the area is average and the soil composition is organic blended with gravels, while in the depths of the stream, the soil formation results in conglomerates. The dumpsite is stable and there is no risk of collapse or landslide. The nearest formally inhabited area is the industrial area of Përmet (about 300m). During the in-siti visit, it was reported that there was presence of urban and inert waste. This dumpsite is not located in visible tourist areas so it does not endanger the degradation of the surrounding landscape. The fact that is very close to the city cemetery increases the likelihood of population exposure.

The working groups recommends the rehabilitation of both dumpsites.

Tepelena Municipality uses the Majkosh dumpsite, which is the only functional one in this municipality. It is located at a distance of more than 300m from the closest inhabited areas which is the Majkosh village (city suburb neighborhood) and at a distance about 1km from the national road Tepelenë-Memaliaj. Very close (30m) to this dumpsite passes the Vjosa river bed. This dumpsite is situated on stable soils and there is no risk of collapse or landslide. The permeability of the area is average and the soil structure is a clayey blended with gravel. During the site inspections, it was found that there was presence of urban and inert waste.

Table 7-16 Intervention and costing of dumpsites at Gjirokastra Region

No.	Municipality	Dumpsite name	Intervention	Cost of intervention (ALL)
1	**DROPULL**	Ura e Glines	Removal	1 645 002
2	**GJIROKASTËR**	Gerhot	Closure	10 195 252
3	**KËLCYRË**	Variboh	Closure	4 771 835
4	**LIBOHOVË**	Kodra e Doftis	Closure	4 360 000
5	**MEMALIAJ**	Cepi i Janinave	Closure	3 122 481
6	**PËRMET**	Brackove	Closure	5 998 963
7		Tek Varrezat Publike të Qytetit	Closure	4 193 823
8	**TEPELENË**	Majkosh	Closure	5 641 617
Total cost for Gjirokastra Region				**39 928 973**

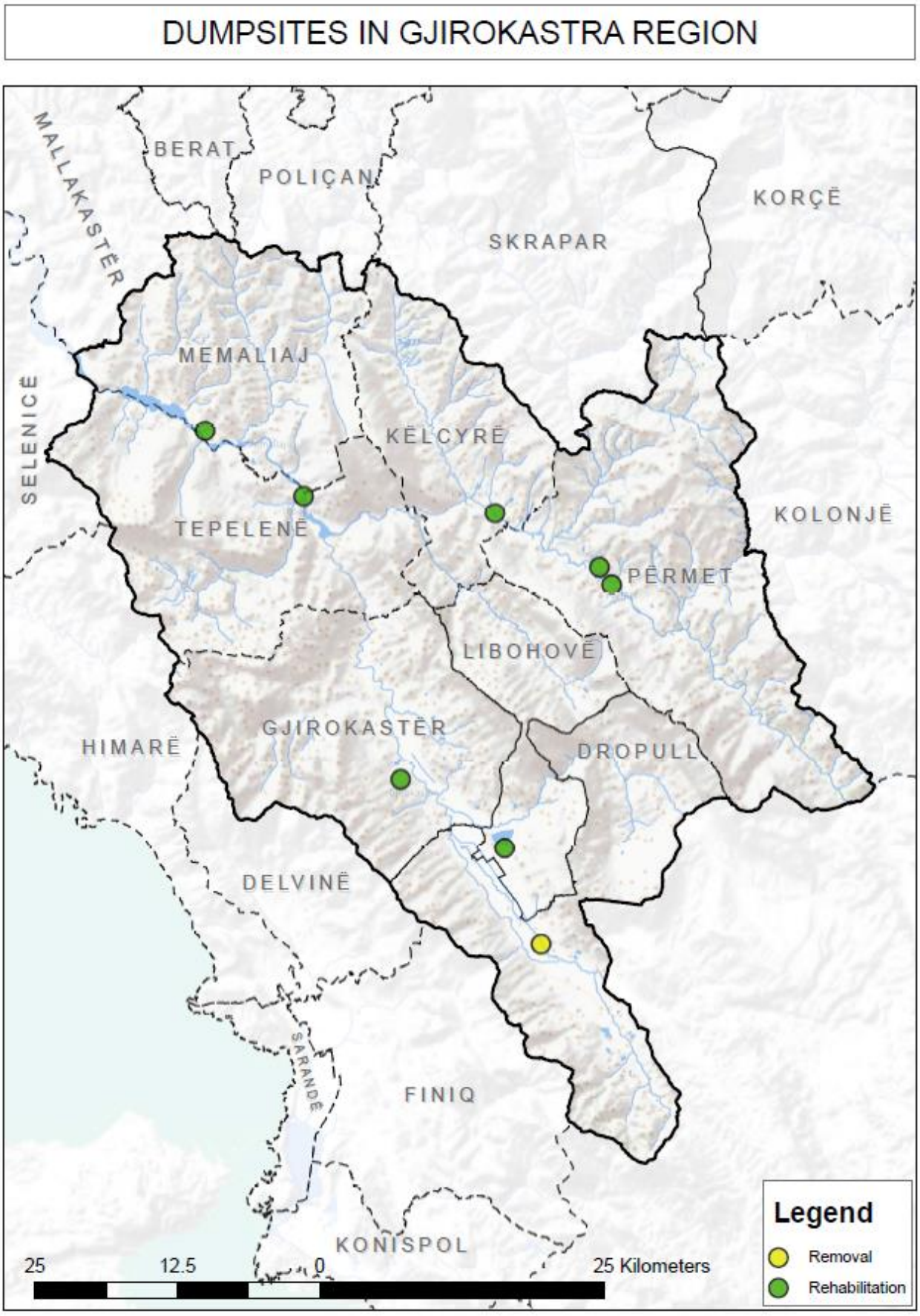


Fig 7 25 Dumpsites in Gjirokastër Region

Annex 1 Scoring form of dumpsite

Name of Dumpsite	**Code/Name**
Municipality	
Caunty	

Summary	
Related risk:	**SCORE**
Water protection	**0**
Population protection and disturbance	**0**
Environmental protection and tourism attraction	**0**
Operation criteria	**0**
TOTAL RESULT	**0**

Related risk	Criteria	Weighting	Score
Water protection			**0**
Surface water contamination	Distance to the river or on the riverbanks	Between 100 and 300 m: 0 (legal exclusion) Between 300 and 800 m: 3 More than 800 m: 5	<EMPTY>
Surface water contamination	Distance to the sea side	Between 100 and 300 m: 0 (legal exclusion) Between 300 and 800 m: 3 More than 800 m: 5	<EMPTY>
Surface water pollution	Distance to a lake side (if is water used for agriculture only)	Between 100 and 300 m: 0 (legal exclusion) Between 300 and 800 m: 3 More than 800 m: 5	<EMPTY>
Drinking water contamination	Upstream of a used potable water source (surface water or groundwater) or in a protection zone for drinking water (immediate catchment area)	Between 100 and 300 m: 0 (legal exclusion) Between 300 and 800 m: 3 More than 800 m: 5	<EMPTY>
Water protection / population protection	In an area where floods can happen	Between 100 and 300 m: 0 Between 300 and 800 m: 3 More than 800 m: 5	<EMPTY>
Water protection / underground protection	Geology of the area show	High underground permeability: 0 Average underground permeability: 3 Low permeability: 5	<EMPTY>
Population protection and disturbance			**0**
Population / operator protection	On an unstable area (risk of landslide)	Disposed waste or Dumpsite site present a confirmed risk of collapse: 0 Waste or Dumpsite site are in a potential landslide area: 3 Disposed waste or Dumpsite site are stable and there is no risk of collapse or landslide: 5	<EMPTY>
Exposure of people to potential pollution	Near legally inhabited area	Between 0 and 100 m: 0 Between 100 and 300 m: 3 More than 300 m: 5	<EMPTY>

Potential presence of hazardous waste, risk for dumpsite operator, close inhabitants and environment	Industrial or non-urban waste present in the incoming waste.	Presence of industrial hazardous waste: 0 Presence of industrial inert waste: 3 Presence of urban waste: 5	<EMPTY>
Environmental protection and tourism attraction			**0**
Landscape degradation, decrease of touristic value	In place visible from touristic places	Yes: 0 No: 1	<EMPTY>
Archaeological sites, cultural heritage zone, and other protected areas defined by the DCM	Near DCM protected areas	Between 0 and 300 m: 0 (legal exclusion) Between 300 and 800 m: 3 More than 800 m: 5	<EMPTY>
Contamination of flora and fauna, impact on tourism	In a natural protected area (nature reserve, national park, etc.)	Yes: 0 No: 1	<EMPTY>
Forest fire, contamination of flora and fauna	In a forest (distance between the dumpsite and the forest must be higher than 10 m to avoid fire).	Yes: 0 No: 1	<EMPTY>
Operation criteria			**0**
Dumpsite will be soon full, therefore not sustainable	Exploitation volume represents a capacity of less than 1 year of operation	Waste availability< 1 year: 0 Waste availability< 2 year: 1 Waste availability< 5 year: 3 Waste availability > 5 year: 5	<EMPTY>
TOTAL RESULT			**0**

Annex 2 Order of the Minister of Tourism and Environment

REPUBLIKA E SHQIPËRISË

MINISTRIA E TURIZMIT
DHE MJEDISIT
M I N I S T R I

Nr 953 Prot Tiranë, më 02 / 02 2018

U R D H Ë R

Nr 35 ,Datë 02 / 02 /2018

"PËR
NGRITJEN E GRUPIT TË PUNËS TASK - FORCËS
PËR VERIFIKIMIN E VENDEPOZITIMEVE EGZISTUESE DHE
PËRCAKTIMIN E KUSHTEVE PËR PËRMIRËSIM/REHABILITIM TË TYRE"

Në mbështetje te nenit 102, pika 4 e Kushtetutës së Republikës së Shqipërisë, pikës 5, të nenit 16, të Ligjit nr.90/2012 "**Për organizimin dhe funksionimin e administratës shtetërore",** neni 45, i ligji Nr.10 463, datë 22.09.2011, "Për menaxhimin e integruar të mbetjeve" **i ndryshuar** , Kapitulli XI , të VKM Nr. 452, datë 11.07.2012 "Për lendfillet e mbetjeve", neni 24 i ligjit nr.10448 datë 14.07.2011 "Për lejet e mjedisit" i ndryshuar,

U R D H Ë R O J:

1. Ngritjen e grupit të **Task - Forcës** për identifikimin e vendepozitimeve egzistuese, përcaktimin kritereve për përzgjedhjen e vendepozitimeve që do të konsiderohen për rehabilitim dhe vlerësimin e procedurave të dhënies së lejes së mjedisit për venddepozitimet informale që do të rehabilitohen.

2. **Grupi i punës përbëhet si më poshtë sipas Rajoneve:**

   - Znj. Ornela ÇUÇI.....Kryetar
   - Z. Rrezart FSHAZI .....Rajonet Vlorë – Gjirokastër;
   - Z. Polikron HORESHKA.....Rajonet Tiranë – Dibër;
   - Znj. Ledjana KARALLIU.....Rajonet Fier – Berat;
   - Z. Juldin BRAHOLLI.....Rajonet Kukës – Durrës;
   - Znj. Sonila PASHAJ.....Rajonet Elbasan – Korçë;
   - Znj. Borana ANTONI.....Rajonet Lezhë – Shkodër;

- Gjashtë **(6)** Përfaqësues të institucioneve nënvarësie të Ministrisë së Turizmit dhe Mjedisit si:
- Agjencia Kombëtare e Mjedisit **(AKM);**
- Inspektoriatit Shtetëror i Mjedisit Pyjeve dhe Ujërave **(ISHMPU);**
- Agjencinë Kombëtare e Zonave të Mbrojtura **(AKZM);**

3. Grupi i punës ka për detyrë koordinimin e punës direkt në terren për indentifikimin e vend depozitimeve të pakontrolluara të mbetjeve urbane, mbledhjen e të dhënave teknike për vlerësimin dhe klasifikimin e tyre sipas përcaktimeve dhe metodologjisë bashkëlidhur me këtë urdhër.

4. Në bazë të indentifikimit të vend depozitimeve të parregullta të mbetjeve urbane dhe vlerësimit real të tyre, grupi i punës përgatit një raport për cdo venddepozitim dhe një raport të përmbledhur për cdo Qark. Forma dhe përmbajtja e raportit bëhet sipas formatit bashkëlidhur me këtë urdhër.

5. Grupi i punës raporton tek Kryetari dhe ky i fundit tek Ministri çdo javë mbi ecurinë e punës dhe produktet e realizuara sipas planit të aktiviteteve bashkëlidhur.

Ky urdhër hyn në fuqi menjëherë.

MINISTËR

Blendi KLOSI

Annex 3 Trainings at local level

Durrës Prefecture

Fier Prefecture

Tirana Prefecture

Elbasan Prefecture

Lezha Prefecture

Shkodra Prefecture

Vlora and Gjirokastra Prefectures

Kukës and Dibër Prefectures

Annex 4 International Scientific Symposium "Waste Treatment and challenges ahead"

Environmental Engineering Department
Faculty of Civil Engineering
Polytechnic University of Tirana

INTERNATIONAL SCIENTIFIC SYMPOSIUM
WASTE TREATMENT AND THEIR CHALLENGES AHEAD
17th of May 2018 Hotel Mondial, Tirana, Albania
18th of May 2018 Hotel Grand, Korça, Albania

Review of Scientific Committee of

International Symposium "Waste treatment and the challenges ahead"

for "Dumpsite Risk Mitigation" Initiative

May 18, 2018

In the second day of International scientific symposium "Waste treatment and the challenges ahead", Mr. Rikard Luka[1], dldp expert (Decentralization and Local Development Programme), presented the "Initiative - Dumpsite Risk Mitigation", a process entirely leaded from the Albanian Ministry of Tourism and Environment (MoTE) and supported from dldp through elaboration of the Methodology and training of experts at central and local level. The presentation consisted of 3 main parts:

- **Process and Methodology**: it was described the organization and the structure of the working groups, at local and central level, as well as the expertise involved and the training provided to achieve the scope of the initiative. Further on, there were elaborated the elements of the Methodology in reference to the 14 technical and legal criteria, based on which there were performed the preliminary evaluation of each single dumpsite, the local decision-making process, the intervention measures' catalogue, as well as costing of measures based on national standards. An important evidence was brought up in the presentation showing that the Ministry of Tourism and Environment has already taken steps forward into transposing the recommendations and the interventions proposed by the Methodology in waste sectorial legal frame.

- **Harmonization with other platforms and national strategic planning instruments.** In this part of the presentation there were explained the efforts done aiming to evaluating all the data provided by the local working groups, and to harmonizing these results with other platforms, such as the one administered by the Albanian Ministry of Energy and Infrastructure MoEI (former Ministry of Urban Development). The main outcomes were also treated from the point of view of the two main national strategical documents[2] that will lead the development of the waste management sector (currently its preparation ongoing from MoEI and MoTE). It was also referred the coordination with National Territory Planning Agency regarding the information contained at the 44 General Local Plans already

[1] Rikard Luka is part-time lecture at Faculty of Civil Engineering (PUT), Department of Mechanics of Structures.
[2] [Draft] National Strategy of Integrated Waste Management (2018-2033); and [Draft] Report of Investments for Solid Waste Integrated Management (2017-2032) (referred to as the Draft National Master Plan).

approved compared with those gathered from the local field teams related to the the respective geolocations of these dumpsites. All the gathered data was geolocated-referred according to the Albanian Geodesic Frame "KGJSH 2010". Based on this frame a WebGis platform is developed and soon will be accessible on the official page of MoTE.

- **Conclusions and possible Scenarios**. During this last part, there were introduced the results of this Initiative at national level, as well as the average costs per each of the interventions (either rehabilitations, closure or waste dumpsite removal), and the possible scenarios regarding interventions at the waste dumpsites according to national priorities concerning coastal tourism protection, river protections, etc.

Presentation was followed by a session of questions and discussions from the audience (lectors and students), which showed great interest for the performed work.

In conclusion:

1. The Initiative for dumpsite risk mitigation is based on a Methodology that takes into consideration the main environmental risks, as well as the risks for the population that are usually exposed to these facilities. It foresees appropriate intervention measures to mitigate such risks.
2. Costing of intervention measures is based on the National Manuals and the Technical Analysis and takes specifically into account the 13 interventions defined in the catalogue of measures. In some occasions, further technical detailing might be necessary. A margin of error is acknowledged from the author.
3. Decision-making process at local level tends to be more practical rather than technical, giving priority to the solving the problems of the municipality with waste disposal. As a consequence, prior to financial support from the government, in some cases it becomes necessary to assure an intermediary technical expertise taking into account the real conditions of a municipality for the waste dumpsites for a period of 3-5 years.
4. Data validation process and the involvement of a number of relevant actors increase considerably the technical agreement and the possibility that this Initiative is supported from the central and local level authorities.
5. The implemented process combines technical and governance aspects, focusing on the role and features of the local authorities. This Initiative may be used as a Good Practice, replicable in similar cases.

Chair of Scientific Committee

Assoc. Prof. Oltion Marko

INTERNATIONAL SCIENTIFIC COMMITTEE

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Oltion Marko	Polytechnic University of Tirana
Ornela Çuçi	Ministry of Turism and Environment
Valbona Karakaçi	Decentralization and Local Developing Program

Annex 5 Legal Framework for waste management

DCM no.798, dated 29.09.2010 "On the administration of hospital waste".

DCM no.177, dated 06.03.2012 "On packaging and packaging waste".

DCM no.178, dated 06.03.2012 "On waste incineration".

DCM no.452, dated 11.07.2012 "On landfill of waste".

DCM no. 765, dated 07.11.2012 "On approval of rules for separation collection and treatment of used oils".

DCM no. 705, dated 10.10.2012 "On management of waste by end of life vehicles".

DCM no. 866, dated 4.12.2012 "On management of used batteries".

DCM no.957, dated 19.12.2012 "On waste electrical and electronic equipment"

DCM no.117, dated 13.02.2013 "Establishing criteria determining when certain types of scrap metal cease to be waste".

DCM no.127, dated 11.02.2015 "On requirements on use of sewage sludge in agriculture".

DCM no.575, dated 24.06.2015 "On requirements on management of inert waste".

DCM no.418, dated 25.06.2014 "On separation of waste at source".

DCM no.99, dated 18.02.2005 "On the approval of the Albanian catalogue for classification of waste".

Law no. 10463, dated 22.09.2011 "On Integrated Waste Management".

DCM no. 175, dated 19.01.2011 "On the approval of the National Waste Strategy and National Waste Management Plan".

DCM no.608, dated 17.09.2014 "On necessary measures for collection and treatment of bio waste as well as criteria and rules to reduce the amount of bio-waste going to landfill".

DCM no.229, dated 23.04.2014 "On rules for non hazardous waste transfer notes".

DCM no.641, dated 01.10.2014 "On rules for waste export and both non hazardous waste andinert waste transit"

DCM no.387, dated 06.05.2015 "On rules for control of PCBs/PCTs disposal, decontamination, or disposal of equipment containing PCBs/PCTsand/or disposal of used PCBs/PCTs".

DCM no.687, dated 29.7.2015 "On rules for keeping, updating and publication of waste statistics".

DCM no.1104, dated 28.12.2015 "On approval of the requirements for the prevention and reducing discharges of ship-generated waste and cargo residues into the sea."

DCM no.652, dated 14.09.2016 "On rules and criteria on waste management for used tires".