

MANAGEMENT AND TREATMENT OF URBAN WASTE IN THE CITY OF ELBASAN

MBA. Albana Madhi (Kacollja)

albana.madhi@yahoo.com

Msc. Marsida Ashiku(Ranxha)

marsidaraxha@yahoo.it

Abstract

This paper analyses the role of local government effectiveness and social norms in the determination of informal employment. A theoretical model is developed, in which local governance affects worker productivity and in which non-compliance with local social norms constitutes a non-pecuniary cost to the worker. These effects, together with skill level, are assumed to influence the decision of the worker whether to seek employment in the formal or informal sector. The model is assessed empirically using data from Albania, where almost half of the urban labour force is employed informally. The empirical analysis supports the predictions of the model and suggests that informal employment is lower in regions with better governance, stronger social norms for compliance with tax and labour regulation, and higher average education.

Keywords: Local government, skills, social norms, informal employment.

District of Elbasan is one of the major units of land administrative division of Albania, whereas city of Elbasan is one of the most important cities of Albania, with a population of about 125,000 inhabitants and a surface 1290 km². He is known as the cradle of knowledge and development as well as the existence of different cultures and religions, a heterogeneous population, which grew mostly in the construction of industrial works during the years 1960/1990. Precisely these factories which have established and are creating different environmental problems. Currently, environmental problems have changed in our city, there is air pollution that takes first place, but are trash ones represent more dangerous. City of Elbasan is classified as polluted area in two major respects, urban pollution in the first and second air pollution. This article aims to describe the current state of our city in this direction, its consequences and strategies to be taken in future to solve these very serious environmental problems. The article is based on the database that owns office environment and the regional council, whose motto is an environment free from urban solid waste for sustainable development, and to a study done by the authors themselves, based on a questionnaire distributed throughout the district of Elbasan for identifying problems related to urban solid waste and have come up with a series of measures and conclusions for the treatment and management of these problems. The article gives a broad picture of the current state of the District of Elbasan and policy strategies to be followed in the future.

Management of Urban Waste

A clean environment is part of the prosperity and quality of life we desire for ourselves and for our children, now and in the future. The stairs we climb and go down every day in our apartment, ways of home, the schoolyard, the neighborhood, city, further the town, etc., require love and care from us, in order to become the environment of clean air where we can live together, have healthy food, getting back to hospitable spaces of our co-citizens.

Waste is not only a thing we do not need any longer, but it is also something that remains from the productions of various goods. It is also something things we can benefit from. Eliminating urban waste is a vital link in the top-end

concept of their management. The current emphasis on pollution prevention and treatment technologies development results in reducing urban waste that must be eliminated. Volumes of waste are foreseen to constantly grow unless action is not taken to resolve this problem. All produce waste. The total amount of it increases each year by 3%. Waste prevention will be a key element of an integrated policy of urban waste management. First of all strong measures to promote reduction is needed to reduce, reuse, and recycle waste as a process.

Management of urban solid waste is one of the most important and most serious problem with which the country is currently facing, while still the problem is not properly addressed. Current efforts to this sector have been inadequate, uncoordinated and largely donor-led agendas.

Today the service of solid waste management is provided either by urban municipal enterprises (responsible departments for urban solid waste in the municipality) or private companies contracted by local central units. Service is funded through revenue generated from service fees, revenue from other local income and unconditional transfers from central government. Current cleaning service is subsidized to a considerable extent of over 40%. The level of tariff collection is low especially for the category "family." The compilation of tariffs does not reflect the principle "the polluter - pays." The regulation of Municipal Waste is performed and continues to be performed in a primitive way. Collection systems are simple, consisting of common containers, placed on the sides of the streets, which are not differentiated, but serve for all kinds of waste and at the same time for all entities that receive the service. Waste is collected by technological vehicles on different frequencies. In general, most of the containers and the vehicles that collect debris are old and quite obsolete by contributing themselves, as an additional source in environmental pollution.

Although there is a considerable potential for recycling or composting (50% to 60%), these are carried out as sporadically activities at low levels and not organized, not oriented by appropriate policies at the central level of waste minimization from the source. Waste without any preliminary selection are transported to storage areas located mainly in inappropriate places (very close to the

urban suburb), illegally (these areas do not have environmental permits) and in extremely inadequate conditions and in total lack of health and environmental criteria. Recycling of waste is an ecological and profitable opportunity in waste management towards other opportunities, such as landfill or incineration. Education of citizens to reduce, recycle urban waste is not the complete solution, but it is a good start. They are removed to inappropriate prohibited places. Currently, in our country has not been conducted any kind of the waste separation or treatment yet. Despite problems in service delivery, meanwhile the waste issue is included in the list of government priorities, creating a good context in improving the country's performance in this sector.

A general description of the urban waste in Elbasan district

Elbasan Region is one of the major units of administrative division / land which includes the districts of Elbasan, Gramsh, Librazhd, Peqin. The area district is 3229 km², population 433 430 inhabitants, consists of 7 municipalities, 43 communes and 386 villages. District of Elbasan is one of the important cities of Albania, with a population of about 125 000 inhabitants and an area of 1290 km² and is located in the center of the country. During the period of communism there were built many industrial works in this city, which created and create major environmental problems. The most important industrial branch was metallurgy which gave 24.6% of total industrial production and that of chemical 19%. Industry in Elbasan gave 77% of total output, Librazhd 44% and Gramsh gave 13% of the total industrial and agricultural production.

Nowadays there are some companies that operate in Elbasan like: the steel plant which includes 5 factories, that of scrap, steel, lamination etc. run by the Kurum company which produces iron for construction of 300 tons in 24 hours, plant ferro-chrome given in concession, the cement factory which produces 300 000 tones. These three companies are considered as major environmental pollutants. Most of their production is for export, while their waste as skorjet with heavy metals like Zn,Pb,Cd,Cu,Co, powder with furrane, CO₂, SO₂, CO, NOX,PM10,PM2,5 remain in the air, water and land of Elbasan.

These large operators and others have been and are the main pollutants in the District of Elbasan. Although industrial pollution has been reduced, still continues to be a concerning problem. Air monitoring results in 2010 did not consider us as the most polluted in Albania and this is shown in the table below.

Region	PM10	PB	SO2	NO2	Ozone
Tirane	159	0.34	25	44	96
Shkoder	102	0.28	11	22	93
Elbasan	81.6	0.255	14	19	95.5
Durres	100	0.26	15	23	99
Fier	104	0.25	25	24	98
Vlore	89	0.23	14	23	100
Korce	92	0.16	11	15	85
Norm AL	70	1	60	50	120

Source ARM Elbasan

But a more actual concerning problem are the urban solid waste which are not treated according to the standards, and also the lack of landfill. The burning of waste makes up a great and widespread problem in municipality and different communes of the Elbasani region. These urban waste bring consequences such as:

- The hurt of human body
- The damage of agricultural land, of irrigating water and of wells water
- The spread of urban waste as a result of wind and environment pollution.
- The growth of different infections, especially in hot periods.
- The spread of infective diseases at children, and different allergies.
- The destruction of the environment and its pollution.
- The multiplication of insects.
- The economy damage
- The tourism damage
- The decrease of the living level.
- The growth of the dust particles effects negatively in the health of population, in agricultural cultivations and in the fruit-bearing and it is also the source for animal diseases.
- The spread of cancerous diseases and also the cause of the genetic diseases, etc

The types of urban waste in Elbasani municipality are classified as below:

The type of waste	Quantity %	In tone
Paper	10	2738
Textile	4.4	1205
Plastic	9.8	2683
Organic Material	23.7	6489
Glass	10	2738
Steel	2	548
Inert Material	8	2190
Waste smaller than 20mm	31.8	8707
Other	0.3	82

Source ARM Elbasan

Another big part of these waste and especially those of organic ones, can be recycled and this makes possible to decrease the quantity of urban waste.

Problems in the treatment of solid Waste

Solid waste in the Elbasan region, in order to be studied, are divided into 4 big categories. Communal waste, business waste, health and industrial waste that are introduced in the table below:

Designation	Communal	Business	Health	Industrial	Total
Municipality Ton/year	48635	15430	150	1220	65435
In %	74.3	23.6	0.23	1.87	100
Communes Ton/year	13168	3316	28		16512
In %	79.83	20	0.17		100
Total Region Ton/year	61803	18746	178	1220	81947
In %	75.4	22.9	0.22	1.48	100

Source ARM Elbasan

As it is observed from the hospital waste and industrial waste table, they are not considered seriously. In the most

part of communes and municipalities of the region they are joined with the communal residues.

A Disturbing Problem in the Elbasani Region remains the collection of waste.

According to the ARM office survey it is previously observed that in 43 communes of the Elbasani region, 21 of them have activated the accumulation of urban waste, and only 9 of them accumulate them every day while the other part once a week or once a month, 18 communes have a specific place where they can throw the waste and this one not approved by laws.

In the 7 municipalities of the region the situation is better in relation to waste accumulation. In this region only 80% of the residues are accumulated and 20% are not accumulated.

In the table below, it is given the waste in kg/inhabitants in Elbasan region.

Designation	Population	Waste in kg	Waste in kg/inhabitant	Population in M.U
Urban waste; Municipalities	196948	65435000	332.2	
Urban waste; communes	136793	16512000	96	
Urban waste; Region (that are collected)	333741	81947000	245.5	80% collected
Population that do not collect waste	82780			20% not collected

Source/ The Region Council

As it is seen from the data in all the voices 332.3 kg/inhabitant, 96 kg/inhabitant, 245.5 kg/inhabitant is under the normal minimum of 750kg/inhabitant.

Municipality	Population	Kg/waste	Kg/inhabitant
Elbasan	126173	37000000	293
Cerrik	14760	3950000	268
Belsh	14187	1825000	129
Librazhd	10085	4700000	466
Prrenjas	8345	3300000	395
Peqin	8993	8130000	904
Gramsh	14405	6530000	453

Source/ The Elbasan Region Council

As it is seen from the table, there is a great variety among the municipalities as parts of the region. There are a lot of factors that influence, but important is the spread of the cleaning service where in different municipalities is different.

Another concerning problem are place deposits

The residues are transported in deposits fields localized especially in the unsuitable places close to the urban periphery. These fields do not have environmental permission and are in extreme unsuitable conditions and in complete lack of health and environmental criteria. The most part of the residues in the communes are deposited in unspecified places and especially in the water flow, where are taken from the water and are transported in other places. The deposits field in the Elbasan city is situated in the water-maintenance zone and it pollutes the water we drink.

Another disturbing problem remains the uncontrolled fires in landfills.

These fires taking place in landfills make possible the emission of toxic gases in the inhabited areas, by making up a serious problem for the human health.

Another disturbing problem are the non-differentiated collection systems.

These consist of mutual containers, placed on road sides, which are not differentiated, but serve for all kinds of waste and at the same time for all the subjects that profit the service.

The other problem is the lack of a landfill according to European standards.

In the Elbasani region, actually there are determined two areas that fulfill the conditions for a landfill according to European standards, but as a result of funds lack it is not set up yet.

Another problem has to do with the lack of consumer educational programs.

The educational programs are very important in the management process of urban waste, which need to be incorporated in school texts, in media, in different meetings with the community, etc.

A great problem is related to the financings for the integrated management of waste and also with the collection of the cleaning tax by business and community subjects.

Actually this service is offered by the responsible departments for urban solid waste in the municipality and by private companies contacted by NjQV itself. The service is financed by the generated incomes related to the service tariffs, related to other local incomes and also to the transfers done by the central government. On the average, the actual cleaning is subsidized in a considerable mass over 40%. The level of cleaning tax collection is about 60%.

Designation	Taxes in %
Pay the tax	60.30%
Do not pay the tax	38.70 %

Source/ The Elbasan Region Council

As it is seen by the analysis, there are a lot of problems that need a quick solution by the part of local government, by being based on the National Strategy of Environment and directions of the Environment Ministry, and also on the best world experiences.

How to avoid this problem:

1. The improvement of infrastructure
2. The control of the execution of lawful rules by executing even sanctions
3. The family consciousness through different trainings and also the reduction of urban waste.
4. The growth of citizens' culture
5. The spread of information in relation to pollution
6. The usage of packing that are decomposed quickly
7. The placement of differentiated trash cans and the collection of waste in time.
8. The informing process done by business companies and their contribution in this process
9. The help given by the ecologic organizations

10. The removal of urban waste from the river Shkumbin and from the inhabited areas.
11. The public participation in decision-making
12. The installation of a contemporary technology in the waste collection and cleaning of roads.
13. The citizens' consciousness related to the payment of the cleaning taxes.
14. The throw of the waste in the determined places for each quarter and the growth of their number.
15. The division of urban waste from those of industrial and hospital ones that are very dangerous.
16. The coordination among the authority and community for a comprehension dialog, etc

The recommendations for the long-term period are:

The development of a local plan for the management of urban waste, where all the interested parts take part.
 The Administration and the integrated management of the urban waste that include:
 The reduction of the waste since at the source;
 The division, family landfills;
 The re-usage of waste;
 The collection and transportation of waste;
 The Recycling out of the collecting area;
 The prior treatment of waste (biological, chemical, physical, composting);

The system verification for the transportation and the land filling of urban waste.

The characteristics of urban waste

The final landfill;

✓ The application of methods that are used today in world for the treatment of solid waste which are divided into two big groups:

A. The ecologic-economic treatment

B. The industrial treatment

✓ The development of a professional structure in the level of region

✓ A policy document addresses the central and local authorities, being suggested designing and implementing management systems financial and environmental, which are necessary to provide affordable service and to ensure consistency in the long run, contributing to:

- Compilation of the full cost of service or individual parts particular system;
- Distribution of funds based on the needs of components of system;
- The measurement of performance and monitoring the specific components of system;
- Compilation of right and sustainable contracts for private sector;

✓ To inform and make the community and especially the businesses to be aware of these problems

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