

Influence of Solid Waste Management on the Use and Conservation of Open Areas in the District of Villa El Salvador, Lima, 2024

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ABSTRACT

The purpose of this study was to correlate the management of solid waste with the conditions of open areas, based on the existing problems in which they are found because it is seen that open areas are neglected or are simply part of the space in which solid waste accumulates, this aspect causes open areas to not be suitable places for people's solace or rest, the study analyzed through a questionnaire the management of solid waste in the study area of the district of Villa El Salvador and another questionnaire for the analysis of the conditions in which the open areas were found, mainly parks and avenues and from this evaluation a correlation was appreciated that leads us to consider that there is a relationship, that is to say the management of solid waste is influential on the conditions of the open areas, since the management or handling of solid waste it was obtained that they were unfavorable and the open areas were mainly neglected or dirty which allows us to understand the importance of the study, because it must serve to assume measures or actions that for both cases are proposed in favor of the improvement of these aspects, considering that the study would be a reference for other realities or districts, not just the metropolis

Keywords: Solid waste, Free areas and Urban environmental management.

INTRODUCTION

The incipient management of solid waste in many cities significantly affects the environment and the health conditions of the population. If it becomes unhealthy due to the garbage disposed of in the open air, cities reduce their reception capacity, since different pests of rodents and/or insects occur, in addition to the miasma that is generated by putrefaction of the waste, to this is added, the detriment to the landscape, which negatively afflicts physical and mental health due to emissions and effluvia and the commotion of the appearance of the area that generates discomfort and discomfort. insecurity (MINAM, 2017, p. 5).

In our country, Peru, the pollution generated by solid waste is a critical problem, which has reached large dimensions and is a problem in all the main cities of the country, generated by the growing population, which lives in all areas, but migrates to the large cities, which generates and disposes of solid waste for the consumption it has to make to live and as it grows and agglutinates in the cities the greater the problem of solid waste.

According to the INEI by 2024, according to population projections, the country reached 34 million 39 thousand inhabitants, of which 16 million 876 thousand are men (49.6%) and 17 million 163 thousand are women (50.4%). (...) Metropolitan Lima concentrates 30.2% of the country's population, which is 10,292,408 people. (INEI, 11/07/2024. Press release <https://www.gob.pe/institucion/inei/noticias/987317-al-2024-la-poblacion-peruana-proyectada-alcanza-los-34-millones-de-habitantes>)

Villa El Salvador has an approximate population of 393,254 inhabitants according to the INEI census in 2017, but to date it already exceeds 400,000 inhabitants, the view of the area, the district or

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this part of the metropolis is mounds of garbage and garbage all over the streets, with the presence of dogs, informal waste that "gathers" or collects waste that is more commercial and vehicles and municipal personnel that cannot cope with keeping the city clean, to this are added in many places, including green areas, abandoned debris, Villa El Salvador is the example of inoperability, inefficiency and lack of capacity for the management of solid waste, The presence of the industrial area contributes to this, one of the solutions is to burn the waste they generate.

The latest trends consider the sustainable management of production, extraction, transformation, trade and service actions, to guarantee adequate environmental quality in the country, this strengthens the management of governments, whether regional and/or local, in terms of solid waste management, especially at the municipal level, prevailing its sustainable and beneficial use.

Thus, it is possible for the population to participate and stop the degradation of the space in which they live and the reduction of consumption or rational management of resources, these would be possible from awareness and with the favor of improving the ecosystem and reducing the (imminent) impact of current climate change, since the most critical changes are to generate more losses of resources and human lives.

The article evaluates the conditions of the free areas of the district of Villa El Salvador to improve their vegetation, constituting these gardens and parks, thus initiating the sensitization of the inhabitants to preserve the health conditions of the streets and reduce or control the generation and disposal of solid waste, seeking that this does not affect the health of the district.

Our country is a source of many resources, a favorite that has them and the world observes it with interest, it is visited and there are businesses at all levels to appreciate our culture and take advantage of our resources, but there are bad habits of control and protection and conservation that do not allow the preservation and care of our resources, the current resources are being lost.

Lima generates more than 8 thousand tons per day and growing and Villa El Salvador is no exception, the garbage that is observed in the district comes from the same population and in some cases from informal workers who bring waste from another part of the city of Lima, that includes the garbage that the same population burns. This practice has to be controlled or eliminated from our behavior since it is very harmful to the environment and therefore the planet, since this generates greenhouse gases and this is irreparable for the ozone layer, as a result of which climate problems are experienced, and the environmental problems that are currently experienced in society.

Villa El Salvador has an industrial zone, it is a part of the district that is inhabited by companies that do not work with much responsibility and have activities mainly in the sale and manufacture of furniture of all kinds, as well as equipment for workshops, restaurants and other factories, but they do not have a favorable management of waste and that has an impact on the appearance of the district and especially the area in which it is carried out The study aims to determine how solid waste management influences the contamination of the free areas of the industrial zone of Villa El Salvador. was fully demonstrated.

RESEARCH METHODOLOGY

The research carried out was of an applied type (Explanatory level), in this regard Carrasco (2005) summarizes that it is the one that tries to act, transform, modify or reduce the problem by generating changes in a certain space or sector of reality assisted by technological and/or scientific knowledge (p. 43).

Applying a non-experimental design in which only the relationship between the variables green areas and solid waste management is observed by observing, describing and relating, applying documentary review, data recording, questionnaire-type surveys to the population using the Likert scale, the sample is non-probabilistic that includes those who are in the study area that is mainly industrial and it has been possible to survey 167 people to be able to contemplate the conditions in which they live and how they feel affected by the presence of solid waste in their free and green areas.

Processing the information with the use of the MS Excell and direct comparison to appreciate the conditions.

RESULTS

In this regard, a summary of the conditions of the free area is presented through the survey applied based on the Likert scale to appreciate the perception of the inhabitants

Table 1. Free Area Conditions

Answers	Access	Adequate	Pedestrian zone	Green areas	Wild birds	Wild animals	Bins	Signage	Cleaning	Order
Totally agree	22.16	10.18	11.38	12.57	20.36	6.59	6.59	7.19	7.78	7.78
I agree	29.34	17.37	18.56	11.98	31.74	12.57	10.18	11.38	11.98	11.98
Neither Agree – Nor Disagree	13.77	19.76	13.77	20.96	8.98	7.78	6.59	6.59	5.39	5.39
Disagree	20.36	39.52	38.32	34.13	19.76	23.35	25.75	24.55	23.35	23.35
Strongly disagree	14.37	13.17	17.96	20.36	19.16	49.70	50.90	50.30	51.50	51.50
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Questionnaire applied by the researcher

Comment: It could be seen that it is favorable for what refers to the Access, something favorable for the Presence of birds, something unfavorable for it to be Adequate, for the pedestrian areas and the green areas, the following is that the aspects such as Presence of wild animals, *Trash cans*, Signage, Cleanliness of the free area and Order of the green area are unfavorable. In summary, considering 5 unfavorable aspects and 3 aspects, they are somewhat unfavorable, the conditions are not the most suitable in the case of the Free Areas.

Table 2. Summary of Solid Waste Management Conditions

Answers	Plan	Gathering	Transport	Cleaning	Use	Elimination	Containers	Handling
Totally agree	6.59	7.78	5.39	8.98	0.60	6.59	2.99	1.80
I agree	7.19	8.98	7.19	10.18	1.20	8.38	5.39	4.19
Neither Agree – Nor Disagree	18.56	17.37	17.96	17.37	5.39	7.78	6.59	7.78
Disagree	19.16	19.76	20.36	17.96	36.53	22.16	28.14	24.55
Strongly disagree	48.50	46.11	49.10	45.51	56.29	55.09	56.89	61.68
Sum	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Questionnaire applied by the researcher

Comment: It can be seen that it is favorable for all cases the dissemination of the plan, Collection, Transport, Cleaning, Use, Disposal, Containers and Handling, in all cases it can be seen that the management or handling of solid waste in the area is not favorable.

As can be seen, that most indicated:

- That there is not a good dissemination of the solid waste management plan,
- That solid waste collection is not carried out properly,
- Likewise, with the transport of solid waste it is not adequate,
- Adequate sweeping and cleaning of the surrounding streets is not observed,
- It is critical not to use solid waste,
- The location of solid waste containers in the area is not adequate, and
- Disagree with solid waste management.

The study concludes that good solid waste management conditions were not seen in the study area and the green areas are not in good condition, therefore it can be said that there is a relationship between solid waste management and the conditions of the green areas or spaces.

DISCUSSION

In Espinosa's (2023) study, inadequate solid waste management is appreciated, but he recognized that solid waste management is important to live in a healthy environment and improve the quality of life with a healthy environment. According to the study carried out, it is similar to the fact that there are no favorable or acceptable conditions for solid waste management, which affects free and green spaces and areas, especially.

Osuna (2021) then recognized that the generation of solid waste is out of control, because the commission is too consumerist, in addition to the lack of a national solid waste policy and its use in the face of the lack of installed capacity and marketing options, to which is added the risk of collapse of the dump. According to the study, the inappropriate management of solid waste and unfavorable conditions of free areas are reiterated, it is urgent to improve solid waste management.

Flores et al (2021), in their study, it was possible to appreciate the need for the characterization of solid waste and the importance of formal or informal collection, in addition to the successful experience of solid waste use in Austria, in contrast in Peru the reality is different, poor use, low cost, excessive accumulation and critical and inefficient management of solid waste. In the study, a characterization of solid waste has been carried out, but the authorities have not done so, emphasizing in the case of collection, transport and use; in addition to the disposal of solid waste.

Raza and Acosta (2022) in their study show that there is a notable difference between those who plan and those who do not, the documentary analysis of the data from 86 cities and the difference between those who plan and those who do not is notorious. The study carries out a characterization on its own. It can be said that a study or characterization of solid waste is important but there are many aspects to be resolved, the study identifies these aspects and this establishes as important the information to be able to make decisions to seek improvement.

Espinoza et al. (2020), in the study it can be noted that there is a significant relationship between the management of household and non-household solid waste and suggest a cooperative management model to promote the adequate ecosystem functioning of the final disposal of solid waste, an unfavorable management of solid waste and conditions that are not at all satisfactory with respect to free areas are appreciated.

Herrera (2023) in his study could not determine the integral management of solid waste and its relationship with environmental management in a mining company, generating environmental, social and administrative management as elements or components of success, it is not only about the handling or management of solid waste and its influence on green spaces within the city of Villa El Salvador, Specifically in the study area that allowed to appreciate the problem that has that is not proceeding well with the management of solid waste and this results in free spaces, especially parks that do not show any favorable conditions either, it is necessary to assume conditions to improve both aspects.

Huaqui (2022) in his study determined that there is a direct relationship between solid waste collection, public cleaning, and operational and institutional management capacity, determining that it has a direct relationship. In the study carried out, it can be seen that there is a need to improve the procedures and the free areas are not satisfactory, the problem being the lack of capacity of the authorities and the inhabitants.

CONCLUSIONS

- According to the study, solid waste management in the study area is unfavorable in all dimensions, considering that the majority of the population does not agree with it, especially in the study area.
- With respect to the green areas, it can be seen that most of the conditions and characteristics of the free areas of the study area are somewhat unfavorable and require greater attention and care and need urgent improvements.

- It is appreciated that there is a correlation between the management of solid waste influences the use and conservation of open spaces in the study area of the district of Villa El Salvador, appreciating that the situation of the handling or management of solid waste is deficient and the conditions of the free area presents aspects that are not adequate and affect the functioning of these spaces.

RECOMMENDATIONS

- Solid waste management in the study area must be optimized, it is important that the population of the study area is involved so that they are favorable.
- The open areas and green spaces in the study area require greater attention and care and need urgent improvements.
- It can be seen that there is a correlation between solid waste management influencing the use and conservation of open spaces in the study area, since solid waste greatly affects the appearance and operation of these spaces.

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