

# Effects of Land Contamination with reference to Chennai

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## Article Info

**Volume 81**

**Page Number: 4903 - 4906**

**Publication Issue:**

**November-December 2019**

## Abstract:

Land contamination is mainly caused by some radioactive pollutants like nuclear reactors, some explosive materials, etc. Some modern agricultural methods use some toxic materials and even that harm land contamination. This research paper is to examine the difference in the mean scores of levels of agreeability towards effects of land contamination among the age groups and to find an association between the prevention of land contamination and educational qualification of the respondents. 1640 samples are collected and considered as the sample size. Dependent variables are burning of wastes, prevention of land contamination, extinction of life, agriculture, economy, tourism industry, and pollution. The findings of this study show that educational qualification of the respondents plays an important role in preventing land contamination and the age groups influence the effects of the land contamination. Being the pillars of our nation we all should try to prevent land contamination. Banning of plastic in one state is not enough to stop land contamination, our whole nation should try to stop using plastic.

## Article History

**Article Received:** 5 March 2019

**Revised:** 18 May 2019

**Accepted:** 24 September 2019

**Publication:** 24 December 2019

**Keywords:** Land, Contamination, soil, wastes, organic content, urbanization

## I. INTRODUCTION

What is below our feet? Maybe a floor and, below that? Bricks, water pipes and who knows what else. Then by keep going down we can be able to see back to soil, rocks, and the raw stuff. By this we can see many changes we have done. Especially our (human) activities cause land contamination. This harmful pollution is steadily rising and we are the reason for it. We might have seen many awareness programs about bio & non - biodegradable wastes and which waste is easy to dispose but humans we are not at all stopped using non - biodegradable wastes which is major reason to cause land contamination. In my state Tamil Nadu, our government had taken an initiative to stop land

contamination by banning plastic. By this ban in my state we are trying to reduce the land contamination as much as we can. How many of us know that even "Deforestation" cause land contamination, if tree had been destroyed then the topmost layer of the soil will get lost.

## II. OBJECTIVES

- To understand the effects of land contamination.
- To analyse the difference between the burning of wastes and the marital status.
- To find the association between prevention of land contamination and the educational qualification.

- To examine the difference in the mean scores of levels of agreeability towards effects of land contamination among the age groups.

### III. LITERATURE REVIEW

**C. Paul Nathanail (2019)** examined that land contamination have increased a lot in recent years. As humans we have to stop it but we are polluting it. We must try to prevent it at least to keep our next generation safer for few years. **Ignasi Corbella (2015)** explained that contamination of land have increased dramatically especially due to dumping of wastes. Plastics play major role in contamination of land. We must try to reduce the use of plastics. **Len Levy and Colin Brown (2015)** has observed that cadmium (Cd) is the largest body of contaminant for land. These researcher says that some content present in the artificial fertilisers can harm land and that can lead to severe land contamination. **Matthias Gross (2013)** explained that cleaning up contaminated land in a timely and effective manner is important. We must keep on cleaning our health in a condition and to stop the contamination of land. **Naohiro Yoshida (2012)** observed that radionuclides such as  $Cs^{134}$  and  $I^{131}$  can contaminate the land other than anything in the world. This contamination was mainly the result of wet deposition on the land. **Teppei J. Yasunari**

**(2011)** examined that land contamination is due to the nuclear wastes from nuclear power plant (NPP). These nuclear wastes affects agricultural land, stock farming and also it affects human life. **Nada Sasakova (2009)** examined the use of non - biodegradable waste is the major reason for land contamination. **J. Paridaens (2005)** has observed that radium is contaminating our land due to some radium production plants.

### IV. METHODOLOGY

For the purpose of the study, descriptive research is used. Convenient sampling method is used in this study for collecting the samples. 1640 samples are collected. Dependent variables include burning of wastes, prevention of land contamination, extinction of life, agriculture, economy, tourism industry, and pollution. Independent sample t test, chi square and ANOVA are the research tools used in this research.

### V. ANALYSIS AND DISCUSSION & RESULTS

*H1: Opinion on burning of wastes and the marital status.*

**Table 1: Burning of Waste in your Area and Marital Status**

Marital Status	N	Mean	Std. Deviation	Std. Error Mean
Married	740	1.24	.430	.016
Unmarried	900	1.18	.383	.013

**Table 2: Independent Samples Test - Burning of Waste in your Area and Marital Status**

	t	df	Sig. (2-tailed)
Independent Sample t test	3.327	1638	.001

Since the sig. value  $< 0.05$ , there is significant difference between the opinion on burning of wastes

and the marital status. It shows that marital status influences the burning of wastes.

*H1: Prevention of land contamination and educational qualification of the respondents.*

**Table 3: Cross Tabulation - Prevention of Land Contamination and Educational Qualification**

Educational Qualification	Prevention of Land Contamination			Total
	By Creating Awareness	By Natural Farming	By Recycle and Reuse	
Primary	46	47	23	116
High School	83	87	24	194
Higher Secondary	78	280	57	415
Degree and above	233	460	126	819
Illiterate	32	51	13	96
Total	472	925	243	1640

**Table 4: Chi-Square Tests - Prevention of Land Contamination and Educational Qualification**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	55.431	8	.000

Since the p value < 0.05, there is association between prevention of land contamination and educational qualification of the respondents. It shows that educational qualifications influence the prevention of land contamination.

*H1: Effects of land contamination among the age groups.*

**Table 5: ANOVA - Effects of Land Contamination**

		Sum of Squares	df	Mean Square	F	Sig.
Extinction of life	Between Groups	47.120	4	11.780	13.805	.000
	Within Groups	1395.133	1635	.853		
	Total	1442.253	1639			
Agriculture will come to an end	Between Groups	24.404	4	6.101	8.537	.000
	Within Groups	1168.449	1635	.715		
	Total	1192.853	1639			
Affects economy	Between Groups	100.824	4	25.206	29.260	.000
	Within Groups	1408.471	1635	.861		
	Total	1509.295	1639			

Affects tourism industry	Between Groups	22.385	4	5.596	6.562	.000
	Within Groups	1394.490	1635	.853		
	Total	1416.876	1639			
Spreads pollution	Between Groups	139.415	4	34.854	34.338	.000
	Within Groups	1659.555	1635	1.015		
	Total	1798.970	1639			

Since the sig. value  $< 0.05$  for agriculture will come to an end, affects economy, affects tourism, spreads pollution, null hypothesis is rejected for all the aspects. There is a significant difference in the mean scores of level of agreeability towards effects of land contamination through end of agriculture, affects economy, affects tourism and spreads pollution among the age groups.

## VI. CONCLUSION

Land contamination deals with lots of waste items loaded in a particular land. Most of these types of waste are medical waste which place a major role in land contamination. To reduce it we have to start using biodegradable products and in the medical industry we have to start using low quality plastic products which essentially deals with single use. Banning of plastic won't make much changes until every person feels that land contamination is harmful and has a great impact on nature. Nowadays the agricultural soils started to lose its fertility level, which ultimately deals with the use of artificial fertilisers and chemical compounds. Higher the use of artificial fertiliser, higher impact on soil. We conclude that if land contamination still continues then every inch a person digs will get a biodegradable product especially plastic products

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