

# **A Study on Tannery Worker's Health Problems in Erode District**

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## **I. Introduction**

The most pressing environmental problems that the developing countries face today include water and air pollution and soil degradation. Of these, water pollution poses a serious challenge due to its impact on a large number of economic activities.

### **Water Pollution And Health Effects**

Human health is one of the most important factors in economic development. A healthy workforce is essential for the development of an economy. A healthy work force requires a healthy environment i.e., clean air, water, recreation and wilderness. Pearce and Warford (1993) have argued that the most important and immediate consequences of environmental degradation in the developing world take the form of damage to human health. Further, they argued that diarrhea is a common occurrence in many developing countries with three million to five million cases recorded every year. Each case is estimated to involve a loss of 3.5 working days amounting to nine billion working days lost in a single year.

### **Impact Of Tannery Effluents**

The continuous flow of untreated effluent water have created severe pollution on air, water and land. The health economy and peace of people are systematically affected by the streams of poison released by the tanneries every day, unmindful of their ecological environmental, economic and biological effect on the air, water land, plants, people and the cattle.

People living around tanneries are suffering from a variety of ailments, such as constant stomach ache, head ache, dizziness and diarrhoea.

### **Statement Of The Problem**

The incidence of environmental exposures on the general status of health has been increasingly acknowledged for numerous diseases. The industrious hazardous waste may show effects in terms of death and morbidity. This may manifest as respiratory diseases, skin reactions, allergies, diminution of vision, corneal opacity, abortion, malformation of pregnancy, stunted growth, neurological disorders, mental depression, psychiatric changes, altered immune response chromosomal aberrations and cancer.

## **II. Objectives Of The Study**

1. To study the general problems of tannery effluents
2. To study the health problem of respondents in the study area
3. To suggest suitable police measures

## **III. Research Methodology**

The validity of any research is based on the systematic method of data collection and analysis. The present study used both primary as well secondary data. The primary data was collected from the people in Erode district. Field survey technique was employed to collect the pertinent data from the 1000 people who affected by the leather tanneries in Erode district. Questionnaire was the main tool for collecting the data.

### **Sampling Design**

In order to identify the sample respondents the following processes are performed. Simple stratified random sampling technique is adopted to identify the respondents.

**Selection of Villages:** Four villages were identified for the purpose of collecting the primary data.

**Geographical Distribution Of Sample Respondents In The Study Area**

S.No.	Village	No. of Respondents
1	B.P. Agraharam	250
2	Suriyampalayam	250
3	Periya Semur	250
4	Gangapuram	250
<b>Total</b>		<b>1000</b>

**Frame Work Of Analysis**

Both primary and secondary data were presented in the form of tables and these tables were systematically analyzed with the aid of some statistical techniques like Percentage, Average, Range, Standard Deviation, Two-way table, Chi-square test, correlation, multiple regression, Henry Garrett Ranking Technique and structural equation model.

**Scope Of The Study**

The study aims at assessing the problems faced by the people in different area of Erode district and to overcome the problems. It also highlights the prospects of environmental pollution of leather tanneries with special reference to Erode district. It is very useful to the prospective people to know the various environmental problems from leather effluent plant.

**Period Of Study** The period of study is from April 2013 to March 2015

**Problems Of Tannery Pollution Outlet**

An attempt has been made to know the problems caused by tannery pollution outlet. For the purpose of this study, it has been classified into six categories viz., breathing problems, air chemical condition, around 5 km impact of air pollution, damage the steel and EB line, damage of buildings and damage of two wheeler and cars. The details are furnished in the following table.

**Table No. 1**  
**Problems Of Tannery Pollution Outlet**

S. No.	Type of problems	No. of Respondent	Percentage (Out of 1000)
1	Breathing Problems	553	55.3
2	Air Chemical Condition	530	53.0
3	Around 5 km impact of air pollution	243	24.3
4	Damage the steel and EB line	400	40.0
5	Damage of Buildings	600	60.0
6	Damage of two wheeler and cars	350	35.0

It is examined from the above table that 55.3 percent of the respondents are facing breathing problems, 53.0 percent of the respondents opined that air chemical condition, 24.3 percent of the respondents opined that impact of air pollution around 5 km, 40.0 percent of the respondents opined that it damaged the steel and EB line, 60.0 percent of the respondents opined that it damaged the buildings and the remaining 35.0 percent of the respondents opined that damaged of two wheeler and cars. It is found from the analysis that majority (60.0%) of the respondents opined that the main problem caused by the tannery pollution outlet as damage of buildings.

**Suffering Of Employees From The Diseases**

An attempt has been made to know the type of diseases suffered by the respondents. For the purpose of this study, it has been classified into nineteen categories viz., skin diseases, stomach ache, abortion, sterility is also among the tannery works, blindness, chronic head ache, diarrhea, leprosy, tuberculosis, chronic cough, night blinders, jaundice, fever, dead, maturity babies, leprosy, gastro, allergies and blood pressure. The details are furnished in the following table.

**Table No. 2**  
**Suffering Of Employees From The Diseases**

S. No.	Diseases	No. of Respondent	Percentage (Out of 1000)
1	Skin diseases	287	28.7
2	Stomach ache	609	60.9
3	Abortion	97	9.7
4	Sterility is also among the tannery works	68	6.8
5	Blindness	51	5.1
6	Chronic head ache	479	47.9
7	Diarrhea	271	27.1
8	Leprosy	53	5.3
9	Tuberculosis	10	1.0
10	Chronic cough	240	24.0
11	Night blinders	29	2.9
12	Jaundice	11	1.1
13	Fever	105	10.5
14	Dead	14	1.4
15	Maturity babies	47	4.7
16	Leprosy	69	6.9
17	Gastro	139	13.9
18	Allergies	71	7.1
19	Blood Pressure	398	39.8

It is observed from the above table that 28.7 percent of the employees are affected by skin diseases, 60.9 percent of the employees are affected by stomach ache, 9.7 percent of the employees are suffering from abortion, 6.8 percent of the employees are affected by sterility, 5.1 percent of the employees are suffering from blindness, 47.9 percent of the employees are suffering from chronic head ache, 27.1 percent of the employees are suffering from diarrhea, 5.3 percent of the employees are suffering from leprosy, 1.0 percent of the employees are suffering from tuberculosis, 24.0 percent of the employees are suffering from chronic cough, 2.9 percent of the employees are suffering from night blindness, 1.1 percent of the employees are suffering from jaundice, 10.5 percent of the employees are suffering from fever, 1.4 percent of the employees are dead, 4.7 percent of the employees had maturity babies, 6.9 percent of the employees are suffering from leprosy, 13.9 percent of the employees are suffering from gastro problem, 7.1 percent of the employees are suffering from allergies and 39.8 percent of the employees are suffering from blood pressure. It is found from the analysis that majority (60.9 %) of the employees are suffering from stomach ache.

**Period Of Suffering From Diseases**

An attempt has been made to know the opinion of the respondents regarding the period of suffering from diseases. For the purpose of this study, it has been classified into three categories viz., below 5 years, 5-10 years and above 10 years. The details are furnished in the following table.

**Table No. 3: Period Of Suffering From Diseases**

S. No.	Period	No. of Respondent	Percentage
1	Below 5 years	867	86.7
2	5 – 10 years	83	8.3
3	Above 10 years	50	5.0
	<b>Total</b>	<b>1000</b>	<b>100.0</b>

It is analyzed from the above table that 86.7 percent of the respondents are suffering from diseases for below 5 years, 8.3 percent of the respondents are suffering for 5-10 years and 5.0 percent of the respondents are suffering for above 10 years. It is found from the analysis that majority (86.7%) of the respondents are suffering from diseases for below 5 years.

**Suffering Of Employees From The Diseases**

An attempt has been made to know the opinion of the respondents regarding the diseases they are suffering. For the purpose of this study, it has been classified into nineteen categories viz., skin diseases, stomach ache, abortion, sterility is also among the tannery works, blindness, chronic head ache, diarrhea, leprosy, tuberculosis, chronic cough, night blinders, jaundice, fever, dead, maturity babies, leprosy, gastro, allergies and blood pressure. The details are furnished in the following table.

**Table No. 4: Suffering Of Employees From The Diseases**

S. No.	Diseases	SA	A	N	DA	SDA
1	Skin diseases	447 (44.7%)	273 (27.3%)	108 (10.8%)	106 (10.6%)	66 (6.6%)
2	Stomach ache	411 (41.1%)	310 (31.0%)	87 (8.7%)	127 (12.7%)	65 (6.5%)
3	Abortion	386 (38.6%)	323 (32.3%)	86 (8.6%)	133 (13.3%)	72 (7.2%)
4	Sterility is also among the tannery works	419 (41.9%)	328 (32.8%)	108 (10.8%)	87 (8.7%)	58 (5.8%)
5	Blindness	434 (43.4%)	293 (29.3%)	88 (8.8%)	108 (10.8%)	77 (7.7%)
6	Chronic head ache	435 (43.5%)	315 (31.5%)	91 (9.1%)	92 (9.2%)	67 (6.7%)
7	Diarrhea	472 (47.2%)	291 (29.1%)	77 (7.7%)	110 (11.0%)	50 (5.0%)
8	Leprosy	467 (46.7%)	323 (32.3%)	81 (8.1%)	78 (7.8%)	51 (5.1%)
9	Tuberculosis	486 (48.6%)	320 (32.0%)	44 (4.4%)	107 (10.7%)	43 (4.3%)
10	Chronic cough	504 (50.4%)	341 (34.1%)	35 (3.5%)	94 (9.4%)	26 (2.6%)
11	Night blinders	474 (47.4%)	365 (36.5%)	43 (4.3%)	86 (8.6%)	32 (3.2%)
12	Jaundice	473 (47.3%)	342 (34.2%)	53 (5.3%)	108 (10.8%)	24 (2.4%)
13	Fever	518 (51.8%)	356 (35.6%)	43 (4.3%)	65 (6.5%)	18 (1.8%)
14	Dead	559 (55.9%)	347 (34.7%)	27 (2.7%)	41 (4.1%)	26 (2.6%)
15	Maturity babies	528 (52.8%)	355 (35.5%)	23 (2.3%)	43 (4.3%)	51 (5.1%)
16	Leprosy	503 (50.3%)	341 (34.1%)	27 (2.7%)	81 (8.1%)	48 (4.8%)
17	Gastro	507 (50.7%)	354 (35.4%)	25 (2.5%)	89 (8.9%)	25 (2.5%)
18	Allergies	532 (53.2%)	326 (32.6%)	66 (6.6%)	52 (5.2%)	24 (2.4%)
19	Blood Pressure	540 (54.0%)	344 (34.4%)	16 (1.6%)	85 (8.5%)	15 (1.5%)

It could be obtained from the above table that the respondents are strongly agreed towards the diseases like ‘skin diseases, stomach ache, abortion, sterility is also among the tannery works, blindness, chronic head ache, diarrhea, leprosy, tuberculosis, chronic cough, night blinders, jaundice, fever, dead, maturity babies, leprosy, gastro, allergies and blood pressure’ as 44.7, 41.1, 38.6, 41.9, 43.4, 43.5, 47.2, 46.7, 48.6, 50.4, 47.4, 47.3, 51.8, 55.9, 52.8, 50.3, 50.7, 53.2 and 54.0 percent respectively. It is noted from the analysis that majority (55.9%) of the respondents are strongly agreed towards the major suffering of dead.

### **Findings**

- It is found from the analysis that majority (60.9 %) of the employees are suffering from stomach ache.
- It is discussed from the analysis that majority (86.7%) of the respondents are suffering from diseases for below 5 years.
- It is concluded from the analysis that majority (55.9%) of the respondents are strongly agreed towards the major suffering of dead.

### **Suggestions**

- From the study, it is found that majority of the respondents opined that the main problem caused by the tannery pollution is breathing problem. So, the pollution control board should take necessary steps to give importance about tannery pollution out let from tannery with treatment of water pollution.
- From the research findings it is noted that majority of the tannery owners are not providing medical treatment to the tannery workers steps should be taken to see whether they are providing enough medical facilities.
- It is found from the analysis that majority of the respondents suffering from stomach ache. Hence, it is needed to arrange a new government hospital exclusive for the area where tannery workers are more.
- From the study majority of the respondents, strongly agreed towards the pollution control board and other research institution should function vested interests so as to protect environment. Hence policy make should organize the research institution at Erode district.
- From the research findings, it is noted that the maximum respondents strongly agreed towards the death cause of tannery water and air pollution. Hence the policy makes it should order to tannery owners shift to tannery nearby SEZ.

### **IV. Conclusion**

The environmental groups suggested that research on reclaiming the affected water and soil should be strengthened the pollution control board and other research institutions should function with out any interference from the vested interests so as to protect environment. A comprehensive approach should be made with the participation affected people, tanners, environment groups, scientist and others to set a proper solution for the problem of tannery pollution.

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