

# Impact of Environmental Pollution on Livelihood: An Economic Analysis

Dr. T. Muthuvijayan<sup>1</sup>, Dr. P. Sasikumar<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Economics, Vivekanandha College of Arts & Sciences For Women (Autonomous), Elaiyampalayam, Thiruchengode, Nammakkal –Dt, TamilNadu, India-637205

<sup>2</sup>Director PG & Research Department of Commerce Vivekanandha College of Arts & Sciences For Women (Autonomous), Elaiyampalayam, Thiruchengode, Nammakkal –Dt, TamilNadu, India-637205

## Abstract

This paper mainly concentrates economic costs of water pollution, land pollution, Air pollution, atmosphere, and surface, (industrial) in the rural communities in terms of losses to agricultural production, human health, and livestock. The samples areas viz. (1) Pasupathipalayam, (2) Kulathur, (3) Naduppalayam (4) Chathiram, (5) Sadaiyanpalayam (6) Govindan Palayam (7) Kuppam (8) Pavitthram (9) Kuttakadai and (10) Punnam. The study clearly found that ground water quality are highly polluted in Pasupathi Palayam, Kulathur, Chathiram and Kuttakadai, because of these areas situated nearer to the textile industries. Further, they suggested proper environmental management plan will help to control the release of effluent from textile units should take precaution before using water drinking, irrigation and other purposes. Otherwise, it may lead to much adverse health effect.

**Keywords:** Water Pollution, Land Pollution, Air Pollution, Noise Pollution and Soil Waste Pollution

## 1. Introduction

India is indeed incredible for its natural wealth, Unity in Diversity, Movements, rich biodiversity, culture, colorful, festivals, dresses and costumes, religious and fauna and varying landscapes. India has made glorious progress in diverse fields since independence. But still there are several problems in the Indian society. Issues such as terrorism, caste discrimination, influence of westernization, and impact of much environmental pollution such as air, water, land, atmosphere, surface, etc., are damaging the natural resources and environment in India. Many developing countries including India have witnessed a lot of changes consequent modernizations in the process of production of goods and services the modern methods of production of goods and services deteriorated the environment and life support system. It is due to indiscriminate use and misuse of resources on the one hand and release of large quantity of uncontrolled pollutants on the other hand. They seriously deteriorated the environment.

## 2. Review of Literature

Venkatachalam. L (2000), study on “Economic Valuation of Water Used in the Household Sector: a Contingent Valuation Approach in a Developing Country Context”, which was conducted in a suburban town of Coimbatore city which is a major industrial centre in South India. The study addressed three issues viz. (a) scope effect (b) information effect and (c) strategic bias. In the case of scope effect, the study concluded two levels of quantity of water to two independent sample households and the

expected households who received higher quantity to be willing to pay more than those households who received the lower quantity of water. Andra Leason (2002) reviewed in recent years, the growth of industry, technology, population, and water use. Municipal and industrial wastes, chemicals fertilizer, herbicides have in filtered in to some aquifers. They that the pollution problems include sever leakage faulty septic tank operation and land fill leachates. Finally, this resulted half of the population of the planet to suffer from disease due to the polluted drinking water. Ratna Reddy V and Bhagirath Bchera (2005) their study on “Impact of water pollution on rural communities: An economic analysis”. The study observed to assess the economic costs of water pollution, (industrial) in the rural communities in terms of losses to agricultural production, human health, and livestock. The costs estimates are based on the household level from two study villages – one a pollution–affected and another control (not affected by pollution) both located in one of the industrial belts in Andhra Pradesh, South India. The costs estimates revealed that the impact of industrial pollution on rural communities is quite substantial in monetary system. The study argued that the compensation principal might work if the estimates of damage are realistic. Nellyat Prakash (2005) has conducted a study on falls of river Pandu. The effluents of various industries, like thermal power station, fertilizer plant, Panki industrial estate, dyes, Chemical and other industries, small arms factory, ordinance factory, Dada nagar industrial estate, electroplating, metal finishing, pharmaceuticals, soaps and detergents and domestic wastes of Govind Nagar locality, discharged about 2,00,000 gallon wastes per day.

### 3. Methodology

The present study is descriptive in nature comprised of primary and secondary sources of data to accomplish the set forth objectives of the study. The study is envisaged with multi stage random sampling method. In the first stage of the sampling design the researcher has identified the revenue villages of Karur district, based on the high levels of pollution. In the second stage samples have been identified on the basis of (non-probability) quota sampling method. In the third stage based on the stratification of rational distribution two persons for villages of Karur district were selected as respondents. The Karur district has 203 revenue villages.

### 7. Objectives of the Study

The present study sought to determine the severity of environmental and socio-economic impacts of pollution on local livelihoods in Karur district of Tamilnadu. The specific objectives of the study are as follows:

1. To study respondents realization on water pollution, land pollution air pollution in the study area.
2. To identify the Opinion towards Air Pollution
3. To identify the Pollution impact and Level of Problems Faced due to the Diseases
4. To examine the Opinion towards Money Spend on Health Illness and Protection against Pollution

### Data Analysis

**Table No.5.1 Taluks wise Distribution of the Respondents**

Sl. No.	Name of the Taluk	No. of Revenue Villages	Number of Respondents per Revenue Village
1.	Aravakurichi	58	116

2.	Karur	22	44
3.	Manmangalam	30	60
4.	Kulithalai	45	90
5.	Krishnarayapuram	25	50
6.	Kadavur	23	46
	<b>Total</b>	<b>203</b>	<b>406</b>

From the above table the researcher infers that most of the respondents were identified from the Aravakurichi taluk (116) followed by Kulithalai (90), Manmangalam (60), Krishnarayapuram (50), Kadavur (46), and Karur (44). The Aravakurichi and Kulithalai household respondents' representation on the impact of environmental pollution will influence the findings and as a result of the study was probable.

**Table No.5.2 Respondents Opinion towards Air Pollution in the Study Area**

Sl. No	Air Pollution	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Release of chemicals and particulates into the atmosphere by factories, vehicles used in air, land and water are the major cause of air pollution. It causes natural disasters and calamities.	54 (13.3)	77 (19.0)	47 (11.6)	30 (7.4)	198 (48.8)
2.	Air pollution is a significant risk factor for a number of health conditions including respiratory infections, heart disease, Chronic obstructive pulmonary disease, and stroke and lung cancer.	56 (13.8)	74 (18.2)	45 (11.1)	37 (9.1)	194 (47.8)
3.	Telecommunication system spoils the atmosphere by producing high amount of radiation. It is the major causes for education in birds and flies and its impact on other dependents.	59 (14.5)	76 (18.7)	46 (11.3)	33 (8.1)	192 (47.3)
4.	Agricultural sector uses more fertilizers that emits high amount of harmful chemicals and gases in the atmosphere. It causes water pollution also.	65 (16.0)	72 (17.7)	46 (11.3)	33 (8.1)	190 (46.8)
5.	Household cleaning works, painting and other sanitation works are abundant in with chemicals. It causes irritation and pungent exhibits pungent smell. It will spoil the air.	78 (19.2)	65 (16.0)	46 (11.3)	18 (4.4)	199 (49.0)
6.	All transport vehicles emits smoke by using fossil fuels It causes the respiratory problems	81 (20.0)	65 (16.0)	45 (11.1)	18 (4.4)	197 (48.5)

	everywhere in world. It can be reduced by using the gases and electricity.					
7.	Using public transport is better to reduce the vehicle usage in roads. It causes the lesser smoke emission.	75 (18.5)	62 (15.3)	49 (12.1)	18 (4.4)	202 (49.8)
8.	Conserving energy in households, generating the power from clean energy sources like sun light, wind and gravity will reduce the toxic chemicals in the air.	76 (18.7)	61 (15.0)	48 (11.8)	21 (5.2)	200 (49.3)
9.	The awareness about global warming, acid rain, eutrophication, and depletion of ozone layer to the general public is very essential to safeguard nature.	79 (19.5)	62 (15.3)	50 (12.3)	22 (5.4)	193 (47.5)
10.	The government should educate the students at the school level how to save the nature from dust carried by the wind from locations with very little or no green cover, gases released from the body processes	81 (20.0)	59 (14.5)	46 (11.3)	20 (4.9)	200 (49.3)
<b>Average</b>		<b>70.4 (17.3)</b>	<b>67.3 (16.6)</b>	<b>46.8 (11.5)</b>	<b>25 (6.2)</b>	<b>196.5 (48.4)</b>

From the above table the researcher infers that 48.4 per cent of the respondents are realized as strongly agreed the statement of air pollution causes. Among the statements “Conserving energy in households, generating the power from clean energy sources like sun light, wind and gravity will reduce the toxic chemicals in the air” and “The government should educate the students at the school level how to save the nature from dust carried by the wind from locations with very little or no green cover” statements were highly agreed by 49.3 per cent of respondents. Rests of the statement were highly agreed by the respondents ranging from 46.8 to 49 per cent. Despite, air is polluted by industrial sector the carbon emission is an unavoidable situation in the economic growth propelled by of industrial and service sector contributions’ towards the GDP of India.

**Table No.5.3 Respondents Opinion towards Pollution impact and Level of Problems Faced due to the Diseases**

<b>Opinion on Pollution impact and level of problems faced due to the diseases</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>	<b>T4</b>	<b>T5</b>	<b>T6</b>	<b>Total</b>
Highly affected	56 (48.3)	20 (45.5)	27 (45.0)	44 (48.9)	27 (54.0)	21 (45.7)	195 (48.0)
Affected	18 (15.5)	9 (20.5)	12 (20.0)	13 (14.4)	9 (18.0)	8 (17.4)	69 (17.0)
Neutral	13 (11.2)	8 (18.2)	7 (11.7)	11 (12.2)	5 (10.0)	4 (8.7)	48 (11.8)
Not Affected	11 (9.5)	1 (2.3)	9 (15.0)	5 (5.6)	1 (2.0)	4 (8.7)	31 (7.6)

Not at all Affected	18 (15.5)	6 (13.6)	5 (8.3)	17 (18.9)	8 (16.0)	9 (19.6)	63 (15.5)
<b>Total</b>	<b>116</b> <b>(100)</b>	<b>44</b> <b>(100)</b>	<b>60</b> <b>(100)</b>	<b>90</b> <b>(100)</b>	<b>50</b> <b>(100)</b>	<b>46</b> <b>(100)</b>	<b>406</b> <b>(100)</b>

The above table shows that respondents opinion towards pollution impact and the levels of problems faced due to diseases in the study area. The results infers that majority 48.0 per cent of the respondents opined that ‘highly affected’, 17.0 per cent of them have expressed their views on ‘affected’, 15.5 per cent of them articulated as ‘Not at all affected’, 11.8 per cent of them have neutrally stated, 7.6 per cent of them have stated ‘Not affected’. Majority of them 65 per cent felt that they have faced problems due to the pollution. The opinion of the respondents is evident that they were aware of pollution impact of disease they were experiencing. The government should create awareness more to the people by introducing special programmes for “how to face pollutions” in the study areas.

**Table No.5.4 Respondents Opinion towards Money Spend on Health Illness and Protection against Pollution**

<b>Money Spend on Health Illness and protection against pollution</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>	<b>T4</b>	<b>T5</b>	<b>T6</b>	<b>Total</b>
Up to (Rs) 500.-1000	18 (15.5)	5 (11.4)	7 (11.7)	17 (18.9)	9 (18.0)	9 (19.6)	65 (16.0)
(Rs) 1001-2000	19 (16.4)	8 (18.2)	12 (20.0)	14 (15.6)	9 (18.0)	7 (15.2)	69 (17.0)
(Rs) 2001- 5000	13 (11.2)	7 (15.9)	7 (11.7)	11 (12.2)	5 (10.0)	5 (10.9)	48 (11.8)
(Rs) 5001-10000	10 (8.6)	3 (6.8)	8 (13.3)	4 (4.4)	1 (2.0)	2 (4.3)	28 (6.9)
(Rs) 10001-20000 and above	56 (48.3)	21 (47.7)	26 (43.3)	44 (48.9)	26 (52.0)	23 (50.0)	196 (48.3)
<b>Total</b>	<b>116</b> <b>(100)</b>	<b>44</b> <b>(100)</b>	<b>60</b> <b>(100)</b>	<b>90</b> <b>(100)</b>	<b>50</b> <b>(100)</b>	<b>46</b> <b>(100)</b>	<b>406</b> <b>(100)</b>

From the above table the researcher infers that the majority 48.30 per cent of the respondents spent money in the range of Rs.’10,001-Rs.20, 000 and above’, 17.0 per cent of them have spent in the range of Rs. ‘1001-Rs.2000’, 16 per cent of them have spent ‘Below Rs.500-Rs.1000’, 11.8 per cent of them have spent in the range of Rs. ‘2001- Rs.5000’; 6.9 per cent of them have spent ‘Rs.5001-Rs.10000’ per annum. Majority of them 55.2 per cent have spent their money safeguarding from pollution. The government should provide the health care services to the Karur district people who are affected by pollution related diseases.

**Respondents opinion towards sources of spending money to cure the health Illness**

<b>Source of spending money to cure health illness</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>	<b>T4</b>	<b>T5</b>	<b>T6</b>	<b>Total</b>
Savings	18 (15.5)	6 (13.6)	6 (10.0)	17 (18.9)	7 (14.0)	9 (19.6)	63 (15.5)

Agricultural employment	18 (15.5)	8 (18.2)	13 (21.7)	13 (14.4)	10 (20.0)	8 (17.4)	70 (17.2)
Monthly salary	14 (12.1)	7 (15.9)	7 (11.7)	11 (12.2)	5 (10.0)	7 (15.2)	51 (12.6)
Jewell loan /pawn broker/local money lenders.	12 (10.3)	1 (2.3)	9 (15.0)	4 (4.4)	2 (4.0)	1 (2.2)	29 (7.1)
Tamilnadu government health care schemes and insurance	54 (46.6)	22 (50.0)	25 (41.7)	45 (50.0)	26 (52.0)	21 (45.7)	193 (47.5)
Total	116 (100)	44 (100)	60 (100)	90 (100)	50 (100)	46 (100)	406 (100)

From the above table 5.12 shows the respondents’ opinion towards sources of spending money to cure the health illness. The researcher infers that majority 47.5 per cent of the respondents availed the services from the Tamil Nadu government health care schemes and insurance, 17.2 per cent of them were dependent on the sources of agricultural employment, 15.5 per cent of them underwent indication from their own savings, 12.6 per cent of them are spent from their monthly salary and only 7.1 per cent of them got loan from various sources. In Tamil Nadu government majority have benefited from health care schemes and insurance and have availed the medication services. The government should create the awareness to avail the “*Muthalamaichar Kaappeetu Thittam*”

**Conclusion**

The study been has concluded Karur district is highly used the own bore water and highly affected by water pollution as per the respondents’ opinion. The water and land pollution is existed Cost is difficult to the people to spending more money for and against of pollution, they need to allocate the monthly income budget to pollutions also. Health hazard is harmful to the people to safeguard from the pollutions; they need to advise how to face the pollutions. Services against the pollution are not satisfied by the respondents of the study. Services against the pollution are not satisfied by the respondents of the study. The above suggestions are considered by the respective authorities and people, definitely the study will give an impact on the environmental pollution affected by the several aspects in India.

**References**

1. Venkatachalam, L. (2000). Economic valuation of water used in the household sector: a contingent valuation approach in a developing country context. *An Unpublished Ph. D.s thesis. Chennai: University of Madras.*
2. Andra Leason Dev (2002), Development of Remedial Technological Re radiating Groundwater Contaminated with Trace Metals, A report.
3. Reddy, V. R., & Behera, B. (2006). Impact of water pollution on rural communities: An economic analysis. *Ecological economics*, 58(3), 520-537.
4. Nellyyat, P. (2005). Industrial growth and environmental degradation a case study of industrial pollution in tiruppur.
5. Kannan, V., Ramesh, R., & Sasikumar, C. (2005). Study on ground water characteristics and the effects of discharged effluents from textile units at Karur District. *Journal of environmental biology*, 26(2), 269-272.

6. Nellyat, P. (2005). Industrial growth and environmental degradation a case study of industrial pollution in tiruppur.
7. Raja G. and Venkatesan. P (2010), “Assessment of Ground Water Pollution and its impact in and around Punnam Area of Karur District, Tamil Nadu, India”, *E-Journal of Chemistry*, 7(2), pp. 473-478