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## Environmental Pollution and its Impacts on Public Health in Nagapattinam District

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### Abstract

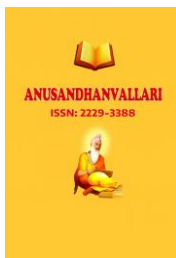
The boundaries of any nation cannot limit these environmental problems to a particular country and region; their impact is global. The problems become more severe, especially in metropolitan areas. There is inadequate convergence of water supply and sanitation, discharge, and solid waste collection, which is extremely low. Flooding and stagnant water are frequent during the rainy season. The surface water bodies are polluted with raw domestic sewage, industrial waste, and most likely hazardous waste. Consequently, health risks related to environmental pollution are serious problems among the residents of Nagapattinam district. Environmental problems and the accelerating changes in living conditions have become fundamental parts of the world in general and metropolises in particular. The environmental problems have been considered technical and economic evils. Thus, the occurrence of large-scale environmental problems has caused global concern about the conservation and protection of the earth's environment. Hence, all over the world, efforts are being made to inculcate environmental consciousness or awareness among the masses. It is education that can make humans conscious of and knowledgeable about the environment and its problems. The analysis of the review of literature enables the researcher to identify past research trends in the ground of ecological sociology. Many research studies have been carried out throughout the globe and in some parts of India in the area of environmental sociology. The assessment of the review of literature enables the researcher to formulate a comprehensive research problem for the present study, Environmental Pollution and its Impacts on Public Health, in Nagapattinam district. This study aims at analysing the collision of ecological effluence on local residents of the Nagapattinam region. This Nagapattinam region has a large number of industries, a transportation network, and a lot of developmental activities. One may notice more effects of industrial pollution in the area than in adjoining villages. This study aims to examine the nature, causes, and consequences of environmental pollution due to the establishment of manufacturing complexes.

**Key Words:** environmental pollution, Public health, hazardous

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### Introduction:

A polluted environment endangers the human race by threatening its survival on planet Earth. The boundaries of any nation cannot perimeter these ecological evils to a particular country or region; their force is universal. The problems become more severe, especially in metropolitan areas. There is inadequate convergence of water supply and sanitation, discharge, and solid waste collection, which is extremely low. Flooding and stagnant water are frequent during the rainy season. The surface water bodies are polluted with raw domestic



sewage, industrial waste, and most likely hazardous waste. Even regularly collected sludge from latrines is not treated. Consequently, health risks related to environmental pollution are serious problems among the residents of Nagapattinam district. Environmental problems and the accelerating changes in living conditions have become fundamental parts of the world in general and metropolises in particular. Earlier, environmental problems were considered technical and economic evils, while in recent decades, the social magnitude of ecological troubles, such as public attention and people's attitudes towards the environment, have become one of the areas of environmental concern (Kalantari et al., 2007). Thus, the occurrence of large-scale environmental problems has caused global concern about the conservation and protection of the earth's environment. Hence, all over the world, hard works are creature finished to pound green consciousness or attentiveness amongst the lots. It is education that can make humans conscious and knowledgeable about the surroundings and ecological problems. Moreover, awareness is essential for action. The goal of environmental education in schools is to familiarize and sensitive young minds to environmental problems and concerns and to establish in them healthy social attitudes and behaviours towards the environment. Industrial Pollution in developing nations although industrialization is an essential component of economic development in developing nations, industrial activities can also have a negative impact on environmental health through the discharge of air and water pollutants and the disposal of hazardous waste. This is frequently the case in developing nations, where environmental protection receives less attention, environmental standards are frequently incorrect or not adequately applied, and pollution management methods have not yet reached their full potential. Many developing nations, including China and other Asian nations, confront significant environmental issues as a result of their rapid economic expansion. One is the environmental contamination caused by risky industries or technology imported from wealthy nations, which are no longer acceptable due to occupational and environmental health concerns in developed nations but are still permitted in developing nations. However, due to laxer environmental regulations, they are still permitted in underdeveloped nations. Another issue is the growing growth of unregistered small businesses, often in townships and rural regions, which, due to a lack of resources and understanding, frequently pollute the air and water. air toxicity In addition to fugitive emissions from small-scale factories like cement mills, lead refineries, chemical fertiliser and pesticide factories, etc., where insufficient pollution control measures are present and pollutants are allowed to escape to the atmosphere, relatively large industries like those in the iron and steel, non-ferrous metals, and petroleum products industries are also a major source of air pollution in developing countries.

The fact that air pollution causes ill health and death is well recognised. Air pollution is caused by both natural and man-made sources. Major man-made sources of ambient air pollution include industries, automobiles, and power generation. In indoor environment, tobacco smoke and the combustion of solid fuels for catering and heating are the most major sources. In addition, construction materials, furniture, carpeting, air conditioning, and home cleaning agents and insecticides can also be significant sources of chemical and biological pollutants indoors. Fuel combustion is the primary source of a large number of health-damaging air pollutants, including fine and respirable particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), carbon monoxide (CO), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs), ozone (O<sub>3</sub>), and atmospheric lead. Some of these pollutants are direct by-products of fuel combustion, but others (such as O<sub>3</sub>) are formed in the air through chemical reactions with other agents in the atmosphere. Air pollution has both acute and chronic effects on human health. Health effects range anywhere from minor irritation of the eyes and the upper respiratory system to chronic respiratory disease, heart disease, lung cancer, and death. Air pollutants can also indirectly affect human health through acid rain, by polluting drinking water and entering the food chain, and through global warming and associated climate change and sea level rise. As a result of several decades of tighter emission standards and closer monitoring, levels of certain types of air pollutants have declined in many developed countries. Although, even at much reduced levels, air pollution continues to threaten public health in these countries. On the other hand, ambient air pollution levels are a growing problem in urban centres in many developing countries. Several factors contribute to the worsening air contamination level in developing-country cities, including rapid growth in urban populations,



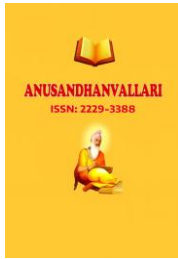
increasing industrialization, and rising demands for energy and motor vehicles. Under these circumstances, towering volume of several health-damaging airborne pollutants are generated inside, resulting in lofty exposure, in particular among women who do the cooking and young children who stay indoors with their mothers. In such environments, individual peak and mean exposures are frequently significantly higher than the safe levels advised by the World Health Organisation. Pollution of the water and soil In addition to industrial air pollution, other significant environmental health issues in developing nations, particularly with numerous small-scale township businesses like those in China, include inappropriate and frequently careless disposal of industrial wastes, uncontrolled discharge into waterways, and uncontrolled disposal on the land, which frequently cause water and soil pollution. Some small-scale factories, such as those that produce textile dye, pulp and paper, leather tanning, electroplating, fluorescent lamps, lead batteries, and metal smelting, frequently generate a lot of waste containing toxic or hazardous materials like chromium, mercury, lead, cyanide, and so forth, which may pollute rivers, streams, and various streams.

#### **Literature of the Study:**

Kannan V., Ramesh R., and Sasikumar C. (2005) have investigated the physio-chemical characteristics of groundwater samples mixed with effluents discharged from the textile industries at Chellandipalayam (Site-I), Senaparatti (Site-II), and Pasupathipalayam (Sites-III and IV) in Karur District, Tamil Nadu, India. Results reveal very high levels of Ca, Mg, Na, Cr, K, Ni, Cu, Zn, CO<sub>3</sub>, SO<sub>4</sub>, NO<sub>3</sub>, and Cl. The concentrations of these ions exceed the limit prescribed by ISI. The increase in concentrations of ions has been revealed by higher values of electrical conductivity. The water at these sites is found to be hard, brackish, and unsuitable for drinking purposes. In all these sites, the seed germination of paddy was significantly affected among the other crops tested. Irrigation of crops with groundwater significantly lowered the quantity of yield in paddy, wheat, and sugarcane, indicating the interference of their metabolic pathways by polluted groundwater. Madhu Rajput and Madhoolika Agrawal (2005) conducted a study to evaluate the impact of urban air pollution on suburban agriculture concerning the changes in photosynthetic rate, stomatal conductance, water-use efficiency, plant height, number of tillers, leaves, ears, and seeds, chlorophyll, carotenoid, protein, phenol, ascorbic acid, nitrogen, sulphate-sulphur contents, and seed weight of pot-grown wheat plants. The study clearly shows that plants are negatively affected by ambient levels of air pollutants. Reductions in various parameters that directly correspond with the air pollution levels at different sites reveal that there is a negative impact of air pollution on agriculture.

#### **Research Methodology:**

The analysis of a review of literature enables the researcher to identify past research trends in the ground of the socio-economic environment. Many research studies have been carried out throughout the globe and also in some parts of India in the area of the socio-economic environment. The assessment of the review of literature enables the researcher to formulate a comprehensive research problem for the present study on the force of ecological effluence and its impacts on community wellbeing in the Nagapattinam district. This study aims to analyse the impact of environmental pollution on residents of the Nagapattinam region. This Nagapattinam region has a large number of industries, a transportation network, and a lot of developmental activities. One may notice more effects of industrial pollution in the area than in adjoining villages. This study aims to examine the nature, causes, and consequences of environmental pollution due to the organization of manufacturing complexes. Regarding the sample population, 120 respondents were selected by a simple random method in the Nagapattinam district industrial area.



**Objectives:**

The following are the framed objectives of the present study:

1. To analyse the respondent's perceptions of pollution risk in Nagapattinam district.
2. To study the problems of noise pollution in the Nagapattinam region based on the perceptions of households and college students.

**Results and Discussion:**

**Table: 1- Region wise Respondents' Perceptions on Pollution Risk in Nagapattinam district industrial region**

Pollution risks	Nagapattinam	Narimanam	Kivelur	Vedaranniyam	tal
Climate change	4.33	3.76	3.46	3.81	3.81
Living near high-voltage power lines	4.53	4.26	3.39	3.92	3.92
Sun Exposure	4.02	4.36	2.7	3.65	3.65
Pesticides in air or water, such as from spraying of crops or mosquitoes	4.58	3.77	3.71	3.49	3.77
Mobile phone towers	3.99	3.99	4.13	3.12	3.99
Passive smoking	4.53	3.96	3.42	4.2	3.96
Water scarcity	4.24	3.9	4.14	4.22	3.90
Nuclear waste	3.45	3.7	3.87	2.97	3.70
Uranium mining	4.54	4.22	4.03	3.91	4.04
Genetically modified food	4.59	3.79	3.99	3.63	3.97
Pollution of swimming beaches, rivers and lakes	3.59	4.44	3.67	3.11	3.69
Treated wastewater pumped into rivers, lakes and seas	2.87	3.78	3.41	2.66	3.40
Re-use of highly treated waste water as drinking water	3.07	2.79	3.33	3.29	3.35
Diseases carried by mosquitoes	4.08	4.06	3.77	3.31	3.78
Contamination of soil by industry	4.22	4.5	4.01	3.28	4.00
Air pollution from cars	3.5	4.52	3.88	2.96	3.86
Air pollution from factories	3.53	4.1	3.33	2.01	3.32
Chemical residues in food	3.14	3.96	3.01	1.6	3.04



Ozone depletion	2.22	3.88	3.05	2.44	3.06
Chemical pollution overall, i.e. of air, water, food	2.05	3.65	2.87	2.45	2.85
Pollution of drinking water catchment areas and groundwater	3.41	3.99	3.29	2.06	3.27
Germs in swimming pools	3.12	3.88	2.92	1.24	2.90
<b>Average</b>	<b>3.71</b>	<b>3.97</b>	<b>3.52</b>	<b>3.06</b>	<b>3.60</b>

Source: computed

A study of data in Table 1 indicates the region-wise respondents' perceptions of pollution risk in the Nagapattinam industrial region. It can be assessed with the help of 22 factors on a 5-point rating scale. These include climate change, living near high-voltage power lines, sun exposure, pesticides in air or water, mobile phone towers, passive smoking, water scarcity, nuclear waste, uranium mining, genetically modified food, pollution of swimming beaches, rivers, and lakes, and treated wastewater pumped into rivers, lakes, and sea. reuse of highly treated wastewater as drinking water, diseases carried by mosquitoes, contamination of soil by industry, air pollution from cars, air pollution from factories, chemical residues in food, ozone depletion, chemical pollution overall, pollution of drinking water catchment areas and groundwater, and germs in swimming pools. Out of the chosen 22 factors, the respondents rate uranium mining as the first-order effluence danger, as their secured mean score is 4.04 on a 5-point rating scale. This shows the highest level of pollution risk in the Nagapattinam industrial region. The respondents rate contamination of soil by industry as a serious pollution risk. In this perception, they secure a mean score of 4.00 on a 5-point rating scale. The respondents express third-order pollution risk in the form of mobile phone towers, as they secure a mean score of 3.99 on a 5-point rating scale. In general, respondents express fourth-order pollution risk in terms of genetically modified food, as they secure a mean score of 3.97 on a 5-point rating scale. The respondents reflect fifth-order pollution risk in terms of passive smoking, which secures a mean score of 3.96 on a 5-point rating scale. Regarding the pollution risk of living near high-voltage power lines, the respondents secured a mean score of 3.92 on a 5-point rating scale. It occupies the sixth-order priority in pollution risk. The respondents possess the seventh-order pollution risk of water scarcity, as their secure mean score is 3.90 on a 5-point rating scale. The respondents secured a mean score of 3.86 on a 5-point rating scale concerning air pollution from cars. It is the eighth level of pollution risk. The respondents rank ninth in terms of climate change, with a mean score of 3.81 on a 5-point scale. The respondents secured a mean score of 3.78 on a 5-point rating scale concerning diseases carried by mosquitoes. It is the tenth-level pollution risk. The respondents have an eleventh-order risk of pesticides in the air and water, as they secured a mean score of 3.77 on a 5-point rating scale. The respondents possess twelfth-order risk in the form of nuclear waste, as they secured a mean score of 3.7 on a 5-point rating scale. The respondents reflect thirteenth-order pollution of swimming beaches, rivers, and lakes as they secure a mean score of 3.69 on a 5-point rating scale. Regarding sun exposure, the respondents secured a mean score of 3.65 on a 5-point rating scale. It occupies the fourteenth-order risk of pollution. The respondents possess the fifteenth-order risk of pollution in terms of treated wastewater pumped into rivers, lakes, and seas as their secure mean score of 3.40 on a 5-point rating scale. The respondents secured a mean score of 3.35 on a 5-point rating scale concerning the reuse of highly treated wastewater as drinking water. It is the sixteenth level of pollution risk. The respondents have seventeenth-order air pollution from factories, as they secured a mean score of 3.32 on a 5-point rating scale. The respondents secured a mean score of 3.27 on a 5-point rating scale concerning pollution of drinking water catchment areas and groundwater. It is the eighteenth level of pollution risk. The respondents have nineteenth-order pollution in the form of ozone depletion, as they secured a mean score of 3.06 on a 5-point rating scale. The respondents possess a twentieth-order risk in terms of chemical



residues in food, as they secured a mean score of 3.04 on a 5-point rating scale. The respondents reflect the first-order risks of germs in swimming pools, as they secure a mean score of 2.9 on a 5-point rating scale. The respondents reflect twenty-second-order chemical pollution of air, water, and food as they secure a mean score of 2.85 on a 5-point rating scale. The region-wise analysis reveals the following facts: The respondents from the Nagapattinam region top the list concerning overall perceptions of the risk of pollution, as they secured a mean score of 3.97 on a 5-point rating scale. The respondents of the Narimanam region rank second concerning overall perceptions of the risk of pollution, as they secured a mean score of 3.71 on a 5-point rating scale. The respondents of the Kilvelur region hold the third position concerning overall perceptions of the risk of pollution, as they secured a mean score of 3.52 on a 5-point rating scale. The respondents of the Vedaranniyam region rank fourth concerning overall perceptions of the risk of pollution, as they secured a mean score of 3.06 on a 5-point rating scale. The two-way ANOVA model is applied for further discussion. At one point, the computed ANOVA's value is 2.88, which is greater than its tabulated value at the 5% level of significance. Hence, there is a significant variation among the chosen regions concerning respondents' overall perceptions of the risk of pollution. At another point, the computed ANOVA's value is 20.99, which is greater than its tabulated value at the 5% level of significance. Hence, variation among the attributes relating to respondents' overall utilisation of various scientific and technical journals is statistically identified as significant. It could be seen clearly from the above discussion that respondents have high levels of pollution risk in terms of uranium mining, contamination of soil by industry, mobile phone towers, genetically modified food, passive smoking, living near high-voltage power lines, water scarcity, air pollution from cars, and climate change. The respondents have moderate levels of pollution risk in terms of diseases carried by mosquitoes, pesticides in the air and water, nuclear waste, pollution of swimming beaches, rivers, and lakes, and sun exposure. The respondents have low levels of pollution risk in terms of treated wastewater pumped into rivers, lakes, and seas; re-use of highly treated wastewater as drinking water; air pollution from factories; pollution of drinking water catchment areas and groundwater; and ozone depletion from chemical residues in food and germs in swimming pools.

**Table: 2- Education wise Respondents' Perceptions on Pollution Risk in Nagapattinam industrial region**

Variables	Primary	Secondary	Higher secondary	Under duate	Post duate	Total
Climate change	3.46	3.29	4.33	4.21	3.76	3.81
Living near high-voltage power lines	3.39	3.31	4.53	4.11	4.26	3.92
Sun Exposure	2.7	3.28	4.02	3.89	4.36	3.65
Pesticides in air or water, such as from spraying of crops or mosquitoes	3.49	2.96	4.58	3.71	4.11	3.77
Mobile phone towers	3.12	3.99	3.99	4.13	4.72	3.99
Passive smoking	4.2	3.39	4.53	3.42	4.26	3.96
Water scarcity	3.1	3.56	4.24	4.14	4.46	3.90
Nuclear waste	2.97	3.95	3.45	3.87	4.26	3.70
Uranium mining	3.91	3.54	4.54	4.42	3.79	4.04



Genetically modified food	3.63	3.35	4.59	4.49	3.79	3.97
Pollution of swimming beaches, rivers and lakes	3.11	3.79	3.59	3.52	4.44	3.69
Treated wastewater pumped into rivers, lakes and seas	2.66	3.93	2.87	3.76	3.78	3.40
Re-use of highly treated waste water as drinking water	3.29	3.63	3.07	3.97	2.79	3.35
Diseases carried by mosquitoes	3.31	3.48	4.08	3.97	4.06	3.78
Contamination of soil by industry	3.28	3.78	4.22	4.22	4.50	4.00
Air pollution from cars	2.96	4.22	3.5	4.10	4.52	3.86
Air pollution from factories	2.01	3.11	3.53	3.85	4.10	3.32
Chemical residues in food	1.6	2.94	3.14	3.56	3.96	3.04
Ozone depletion	2.44	3.9	2.22	2.86	3.88	3.06
Chemical pollution overall, i.e. of air, water, food	2.45	3.65	2.05	2.45	3.65	2.85
Pollution of drinking water catchment areas and groundwater	2.06	3.13	3.41	3.76	3.99	3.27
Germs in swimming pools	1.24	2.68	3.12	3.58	3.88	2.90
<b>Average</b>	<b>2.92</b>	<b>3.49</b>	<b>3.71</b>	<b>3.82</b>	<b>4.06</b>	<b>3.60</b>

Source: Computed

Table 2 discusses the education-wise respondents' perceptions of pollution risks. The postgraduate-level educated respondents (college students) receive the initial place concerning overall perceptions of the risk of pollution, as they secured a mean score of 4.06 on a 5-point rating scale. The undergrad respondents (college students) rank second with respect to overall perceptions of the risk of pollution, as they secured a mean score of 3.82 on a 5-point rating scale. The higher secondary-level educated respondents hold the third position with respect to overall perceptions of the risk of pollution, as they secured a mean score of 3.71 on a 5-point rating scale. The secondary-level educated respondents hold the third position with respect to overall perceptions of the risk of pollution, as they secured a mean score of 3.49 on a 5-point rating scale. The primary-level educated respondents hold the third position with respect to overall perceptions of the risk of pollution, as they secured a mean score of 2.92 on a 5-point rating scale. The two-way ANOVA model is applied for further discussion. At one point, the computed ANOVA's value is 1.84, which is greater than its tabulated value at the 5% level of significance. Hence, there is a significant difference amongst the chosen education groups concerning respondents' overall perceptions of the risk of pollution. At another point, the computed ANOVA value is 32.49, which is greater than its tabulated value at the 5% level of significance. Hence, variation among the attributes relating to respondents' overall utilisation of various scientific and technical journals is statistically identified as significant. It could be seen clearly from the above discussion that there is an association between the education status of the respondents and their overall perceptions of pollution risks. It could be noted that the higher their education status, the higher their overall perceptions of pollution risks, and vice versa.

**Table: 3- Income wise Respondents' Perceptions on Pollution Risk  
in Nagapattinam industrial region**

Variables	Up to Rs.5000	Rs.5001 – Rs.7500	Rs.7501- Rs.10000	Rs.10001- Rs.12500	Rs.12501 – and above	tal
Climate change	3.46	3.54	3.29	3.78	4.11	3.81
Living near high-voltage power lines	3.39	3.76	3.31	4.11	3.89	3.92
Sun Exposure	2.7	2.87	3.28	3.77	4.31	3.65
Pesticides in air or water, such as from spraying of crops or mosquitoes	3.49	3.28	2.96	4.07	3.96	3.77
Mobile phone towers	3.12	4.1	3.99	3.78	4.09	3.99
Passive smoking	4.2	3.6	3.39	3.96	4.32	3.96
Water scarcity	3.1	3.78	3.56	3.52	4.4	3.90
Nuclear waste	2.97	3.1	3.95	3.79	4.21	3.70
Uranium mining	3.91	3.5	3.54	4.4	4.22	4.04
Genetically modified food	3.63	3.92	3.35	3.66	4.33	3.97
Pollution of swimming beaches, rivers and lakes	3.11	2.8	3.79	3.88	4.39	3.69
Treated wastewater pumped into rivers, lakes and seas	2.66	2.67	3.93	3.76	3.77	3.40
Re-use of highly treated waste water as drinking water	3.29	3.92	3.63	2.55	3.58	3.35
Diseases carried by mosquitoes	3.31	3.45	3.48	3.89	4	3.78
Contamination of soil by industry	3.28	3.73	3.78	3.89	4.05	4.00
Air pollution from cars	2.96	3.62	4.22	3.22	3.86	3.86
Air pollution from factories	2.01	2.39	3.11	3.85	3.72	3.32
Chemical residues in food	1.6	3.07	2.94	3.1	2.95	3.04
Ozone depletion	2.44	2.84	3.9	2.23	4.11	3.06
Chemical pollution overall, i.e. of air, water, food	2.45	1.86	3.65	2.53	4.16	2.85



Pollution of drinking water catchment areas and groundwater	2.06	2.46	3.13	3.15	2.46	3.27
Germs in swimming pools	1.24	1.93	2.68	2.76	4.22	2.97
<b>Average</b>	<b>2.93</b>	<b>3.19</b>	<b>3.49</b>	<b>3.53</b>	<b>3.96</b>	<b>3.60</b>

Source: computed

A study of data in Table 3 indicates the income-wise respondents' perceptions of pollution risks. It is interesting to observe that among the chosen income groups, the respondents in the highest income group rank first for their overall perceptions of pollution risks, as they secured a mean score of 3.96 on a 5-point rating scale. The respondents in the income group Rs. 10501–Rs. 12500 take the second position for their overall perceptions of pollution risks, as they secure a mean score of 3.53 on a 5-point rating scale. The respondents in the income group Rs. 8501–Rs. 10500 take the second position concerning their overall perceptions of pollution risks, as they secure a mean score of 3.49 on a 5-point rating scale. The respondents in the income group Rs. 5001–7500 take the second position concerning their overall perceptions of pollution risks, as they secure a mean score of 3.19 on a 5-point rating scale. The respondents in the lowest income group are put in the last position for their overall perceptions of pollution risks, as they secure a mean score of 2.93 on a 5-point rating scale.

### Findings and Conclusion:

The major conclusion of the study leads to the following concluding remarks:

The major result of the respondents' perceptions of pollution risk in the Nagapattinam industrial region reveals the following facts:

- ❖ The respondents have high levels of pollution risk in terms of uranium mining, contamination of soil by industry, mobile phone towers, genetically modified food, passive smoking, living near high-voltage power lines, water scarcity, air pollution from cars, and climate change.
- ❖ The respondents have moderate levels of pollution risk in terms of diseases carried by mosquitoes, pesticides in the air and water, nuclear waste, pollution of swimming beaches, rivers, and lakes, and sun exposure.
- ❖ The respondents have low levels of pollution risk in terms of treated wastewater pumped into rivers, lakes, and seas; re-use of highly treated wastewater as drinking water; air pollution from factories; pollution of drinking water catchment areas and groundwater; and ozone depletion from chemical residues in food and germs in swimming pools.
- ❖ The education-wise analysis shows that, there is an association between the education position of the samples and their on the whole perceptions of pollution risks. It can be well-known that the higher their education status, the higher their overall perceptions of pollution risks, and vice versa.
- ❖ The income-wise analysis shows that, there is an association between the income status of the sample population and their overall perceptions of pollution risks. It could be noted that the higher the income status, the higher the overall perception of pollution risks, and vice versa.
- ❖ Regarding problems of noise pollution, the respondents reveal the subsequent particulars: The respondents rate high-level problems with noise pollution regarding tension, rising blood pressure, irritation, and hearing impairment.



- ❖ The respondents rate moderate-level problems of noise pollution concerning disturbing reading, speech interference, trauma, loss of concentration, fatigue, acidity, an increase in stress, annoyance, and loss of mental peace.
- ❖ The respondents rate low-level problems of noise pollution concerning headaches, auditory fatigue, and sleep disturbance.
- ❖ The education-wise analysis shows that there is a correspondence between the education statuses of the respondents and their taken as whole harms with noise pollution in the Nagapattinam industrial region. It could be noted that the higher the education status, the higher the overall problems of noise pollution in the Nagapattinam industrial region, and vice versa.
- ❖ The income-wise analysis shows that, there is an opposite relation among the income position of the sample population and there in general problems with noise pollution in the Nagapattinam industrial region. It could be noted that the higher the income status, the lower the overall problems of noise pollution in the Nagapattinam region, and vice versa.

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