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## AWARENESS OF PLASTIC POLLUTION AMONG THE PEOPLE OF THE SERFANGURI AREA

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### **Abstract:**

*Plastic pollution is the accretion of plastic particles and objects in the environment that adversely affect wildlife, humans and their habitat. Plastics are expensive and long-lasting. For these reasons, plastic production by humans is very high and demand continues to increase day by day. Human activities can endanger human life and natural ecosystems. When using plastics such as plastic bottles, plastic bags, etc., it is found that they are thrown away recklessly without thinking about the consequences. That's why, the present study aimed to investigate the awareness of plastic pollution and its causes and effects among the people in Serfanguri area. The study was limited to the villages in Serfanguri area, Dotma Block. The population of the study consists of 15 villages. The sample of the present study consists of 30 villagers of the total population by using simple random sampling. After data collection, we founded that many villages do not have a dustbin to dispose of plastic, which is the main reason for plastic pollution in Serfanguri area. A total of 45% people do not know the impact of plastic pollution, if we need a good environment and want to protect against plastic pollution, we must first provide knowledge to these 45% people about the impact of plastic pollution.*

**Keywords:** Awareness, Causes and effect, plastic pollution.

### **INTRODUCTION:**

Plastic is an indispensable raw material with numerous applications due to its key properties of flexibility, malleability, and durability. Plastic, which is derived from the refining of oil and gas, is essential in making our lives easier. Consider the diapers that help parents care for their babies. Consider the insulation on the electrical wires that power our lives, or the multipack of pencils you buy at the beginning of the school year. Plastics are widely used in fisheries, agriculture, technology, industries, retail, textiles, renewable energy, transportation, personal care products, and all other sectors that have an impact on our daily lives, either directly or indirectly. Consider the bottles, plastic bags, cigarette filters, straws, stirrers, cups, wrappers, flip-flops, packaging residues, and

microplastics that contaminate our soils, waters, and ecosystems. Plastic has made our lives easier but at a higher cost than we can imagine.

Most of the trash and packaging that ends up in our landfills, clogs the waterways, and ends up in the oceans is made of plastic. Plastic is durable for hundreds of years, gradually disintegrating into smaller and smaller fragments but never entirely disappearing. One of the main advantages of plastic is its durability. However, many plastic products as well as the plastic packaging they come in are made to be thrown away after only one use. Despite being an oxymoron, disposable plastic has sadly become a part of our perilous, rapidly deteriorating reality.

Plastic pollution is a major issue on a global scale that has a detrimental effect on people, animals, and their habitats and it is the accretion of plastic particles and objects in the environment. One of the biggest environmental issues we face today is pollution, which has an impact on our land, air, and water resources. Plastic has a daily impact on people and wildlife and can take up to 400 to 500 years to completely disappear once it enters the natural environment. When it drifts between two bodies of water, it can suffocate or smother numerous species of wildlife. Further increasing the risk is the fact that it degrades into tiny plastic particles under the influence of the sun, which fish eat and introduce into the food chain. As a result, it might also be dangerous to people's health. Plastic pollution has the potential to change habitats and natural processes, as well as the capacity of ecosystems to adapt to climate change. These effects have a direct bearing on the livelihoods of millions of people, as well as the potential for food production and social well-being. Plastics are, however, very expensive and durable. These factors contribute to humans producing a lot of plastic and daily demand growth. Human activities can endanger human life and natural ecosystems. When using plastics such as plastic bottles, plastic bags, etc., we find that they are thrown away recklessly without thinking of the consequences. Most plastics have a chemical structure that makes them very resistant to many natural degradation processes, so it takes a long time to degrade. Therefore, pollution from plastics can affect land, waterways, and oceans.

#### **REVIEW OF RELATED LITERATURE:**

**Frank J. Kelly and Stephanie L. Wright (2017)** conducted research to determine whether microplastics are harmful to the environment. Its presence in air samples and foods intended for human consumption has been documented. Due to the unknown effects on human health, exposure to microplastics may occur through food or inhalation. This review article discusses and evaluates the potential effects of microplastics on human health and identifies critical areas for further study using cross-disciplinary scientific literature.

**KM Wantzen (2019)** investigated plastic pollution as one of the most pressing environmental issues of our time. While there have been significant scientific efforts to address this issue, they have not always been well coordinated or focused. In this brief overview, we urge

scientists to address three critical issues (threats) that are often overlooked.

**Shivashankari Pandirajan; V. Pragadeesh Raja\*; Jasmine Maruthupandiyan; Kalaivani Annadurai (2020)** studied plastic pollution awareness and attitudes toward plastic bag use in the rural population of Kanchipuram, Tamil Nadu, India. . A community-based cross-sectional study was carried out among the residents of Sembakkam, Kancheepuram district, Tamil Nadu. The research was carried out between June and July of 2019. A semi-structured questionnaire was used to collect data from participants. The data was entered into MS Office Excel and analyzed using SPSS version 21. They found that 67.5% (135) are males and 32.5% (65) are females in the study. The participants' average age is 48.22 years (14.14). Literacy rates are 86.5% (173) and illiteracy rates are 13.5% (27) respectively. According to the study, 71% (142) of participants believe that plastic causes health problems in animals, while 24.5% (49) are unaware of the health risks posed by plastic. In terms of plastics disposal, 31% (62) believe that burning of plastics followed by recycling of plastics (28% (56) (p 0.05) is the proper method. The majority of participants, 90.5% (181), support a plastics ban, while 5.5% (11) oppose one.

#### **NEED OF THE STUDY:**

Plastic pollution is now widely recognized and acknowledged by the general public, industry, and politicians. Plastic pollution is a problem not only because it exists, but also because the amount of plastic waste is increasing exponentially every day, and if strategies to reduce it are not developed, the problem will soon become unmanageable. Cleaning up is no longer enough. We must address the issue where it originates. Inadequate plastic waste disposal is frequently caused by a lack of resources and knowledge about the dangers of plastic pollution. It is our responsibility to take a variety of steps to protect the environment. We must combat pollution if we are to make progress toward a better future. When they enter our bodies, tiny plastic particles can harm our health. Chemical additives are found in plastic products. Several of these substances have been linked to serious health problems such as hormone-related cancers, infertility, and neurodevelopmental disorders, but more than 60% of people in the Serfanguri region are unaware of the effects of plastic waste. Therefore, we need to study plastic pollution and provide people with the appropriate knowledge about it.

#### **DESCRIPTION OF STUDY AREA:**

The area of the present study was conducted under the Dotma Block, Serfanguri area Kokrajhar District of Assam and is situated in the northern part of Dotma block about 10 KM near the National Highway. The total village comprises 15 (Approx.)

#### **OBJECTIVES OF THE STUDY:**

- a) To study the awareness of plastic pollution among the people of Serfanguri area.
- b) To study the causes and effects of plastic pollution.



c) To suggest possible remedial measures among the people.

#### **DELIMITATION OF STUDY:**

The delimitation of the present study is as follows.

- a) The present study was limited to the villages in the Serfanguri area, Dotma block.
- b) The study was limited to collecting data from the villagers.

#### **METHODOLOGY:**

For the present study, the researcher used the descriptive survey method. The sources for the present study were gathered from primary and secondary data such as articles, newspapers, magazines, journal, books, etc.

#### **POPULATION AND SAMPLE:**

The population of the present study includes some villages in Serfanguri area, Dotma block. The population of the study consists of 15 villages. The sample for the present study consists of 30 villagers of the total population, using simple random sampling.

#### **TOOLS:**

For the present study, the tools of self-development questionnaires and observations were used to collect data from the people of Serfanguri area.

#### **DATA COLLECTION:**

Data were collected from the sample using the above instruments. In addition, sources were consulted in different villages of Serfanguri area. Data were collected using a self-development questionnaire and formal interviews with villagers. For this study, data were collected from primary and secondary sources.

#### **CONSTRUCTION OF QUESTIONNAIRE:**

For the present study, a series of questionnaires was prepared exclusively for the villagers. The questions in this questionnaire only aimed to provide some knowledge to the villagers. The instruments consist of 11 items in the form of yes/no questions. After developing a questionnaire for Serfanguri villagers, the researcher felt it necessary to seek the comments, opinions and views of Serfanguri villagers and the suggestions were adopted.

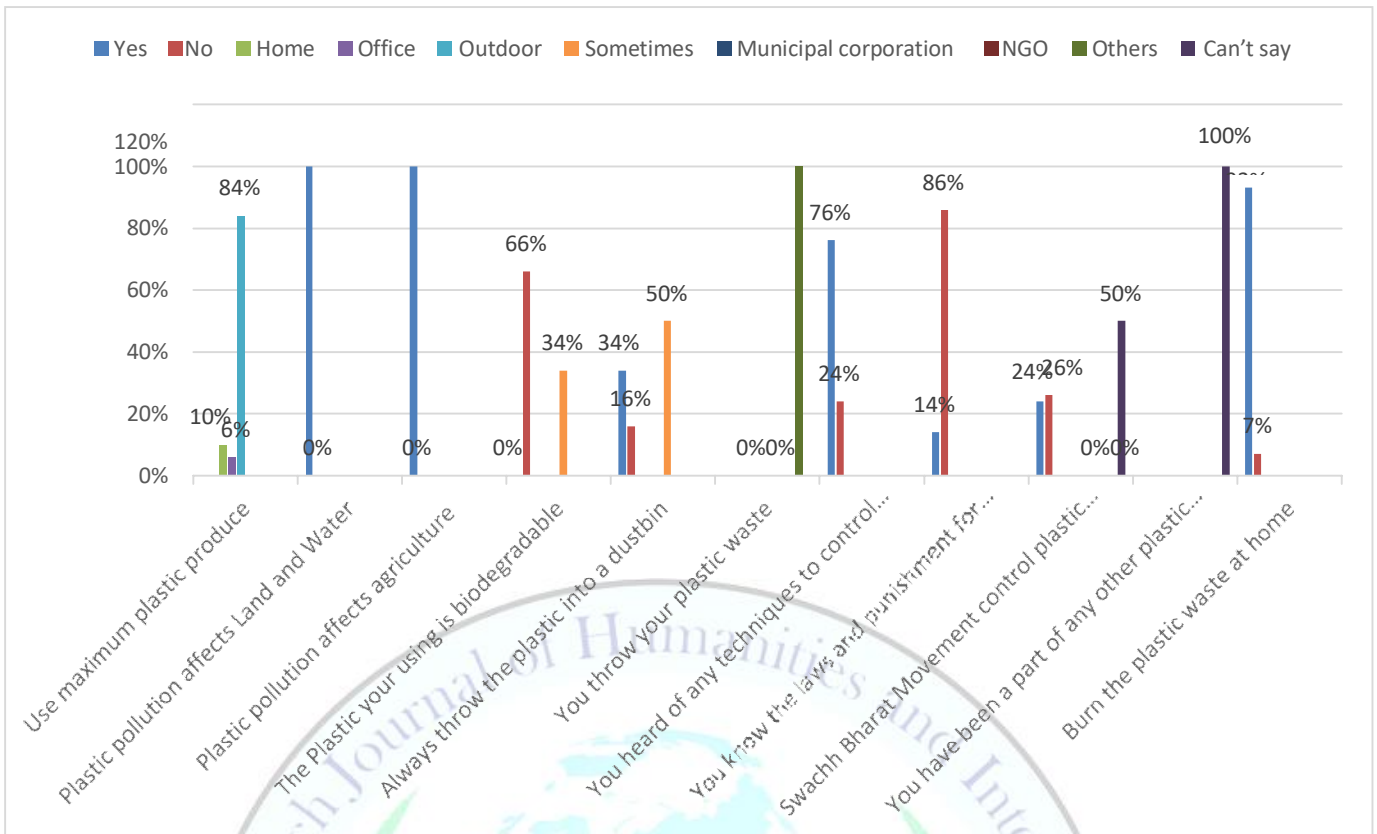
#### **DATA ANALYSIS AND DISCUSSION:**

Data analysis is considered an important step in research work. After collecting data using relevant tools and techniques, the next logical step is to analyze and interpret the data to arrive at an empirical solution to the problems. Data analysis for this study was conducted quantitatively/qualitatively using descriptive statistics.

**Based on objectives 1: (a)** To study the awareness of plastic pollution among the people of Serfanguri area, Dotma block.

Q. No.	Items	No. of responses		Percentage%
1	Use maximum plastic produce	Home	3	10%
		Office	2	6%
		Outdoor	25	84%
2	Plastic pollution impacts the land and water.	Yes	30	100%
		No	0	0%
3	Plastic pollution impacts agriculture	Yes	30	100%
		No	0	0%
4	The plastics yours usingis biodegradable	Yes	0	0%
		No	20	66%
		Sometimes	10	34%
5	Throw the plastics into dustbin	Yes	10	34%
		No	5	16%
		Sometimes	15	50%
6	Where do you Throw the plastics waste.	Municipal corporation	0	0%
		NGO	0	0%
		Others	30	100%
7	Heard of any techniqueto control plastics waste.	Yes	23	76%
		No	7	24%
8	You know the laws and punishment for plastics pollution in India.	Yes	4	14%
		No	26	86%
9	Will Swachh Bharat movement control plastic pollution	Yes	8	26%
		No	7	24%
		Can't say	15	50%
10	Part of any other plastics pollution drives	Yes	0	0%
		No	0	0%
		Can't say	30	100%
11	Burn the plastic waste	Yes	28	93%
		No	2	7%

**Table No. 1.0 shows the percentage of awareness of plastic pollution among the people of Serfanguri area.**



**Graphs: 1.0 Diagram showing percentage of an awareness of plastic pollution among the people of Serfanguri area.**

From the above Table No. 1, it can be seen that 10% of the respondents use plastic at home and 6% of the respondents use plastic at office, but 84% of the respondents use plastic outdoors. It can be seen that all people in Dotma block do not take responsibility for good environment. The people of Serfanguri area responded "yes" because plastic pollution affects water, soil and also agriculture, which 100% of respondents affirmed. Some of them, 66%, disagree that plastic is biodegradable, and 34% of people responded that plastic is "sometimes" biodegradable. But we know that plastic is not biodegradable, if we want a good environment; we need to give knowledge about this issue to the people in Serfanguri. 34% of people in Serfanguri throw plastic waste into a dustbin but 16% of people do not throw the plastics into a dustbin and 50% of people sometimes throw them into a dustbin. When I went to collect data this time, I asked why you do not throw the plastics into a dustbin. Some of them reply me that we do not have a dustbin in our area, so we can not put the plastics in a dustbin. Because of this problem, people say that the condition of Serfanguri areas is not good. It was also found that 100% of the respondents answered "other" to the question about the disposal of plastic waste. 76% of people know about plastic pollution control techniques but 24% of people have no idea about these techniques, 86% of villagers have no idea about plastic pollution laws and penalties in India and 4% of villagers responded "yes" to the laws and penalties. From the table, 26% of the respondents answered "Yes" and 24% answered "No". 50% of the

respondents cannot say. All the people of Serfanguri areas responded 'can not say' when asked about other measures to combat plastic pollution. 93% of respondents answered "yes" when it comes to burning plastic waste at home, but 7% of respondents do not burn plastic waste. It is observed that this practice of people affects the land, air and water as well as people.

**Based on objectives 2: (b)** To study the causes and effect of plastic pollution.

**Causes:** After collecting data in Serfanguri area, we found that many villages do not have a dustbin to dispose plastic, which is the main cause of plastic pollution in Serfanguri area. And we all know that plastic does not decompose. Plastics are made up of chemical bonds that are both strong and durable. Depending on the type of plastic, it usually decomposes between 400 and 500 years. In every village in the Serfanguri area, plastic is found everywhere on the streets and roads, resulting in a messy appearance of the area. To allow for proper packaging, the cartons of some products such as canned drinks, milk and tomatoes are lined with plastic. Attendees and guests who are unaware of the environmental consequences are throwing plastic water bottles and soft drink bottles in the trash at restaurants, hotels, seminars, conferences, wedding parties, general meetings, etc. Some of these products may also contain microplastic crystals. The toxic pollutants released when any of these items are thrown away and cleaned in the sink pose a threat to the environment. Landfills and dumps pose a serious problem as the pollutants seep into the soil and affect groundwater and wildlife. According to experts, plastic pollution of the soil threatens the plants, animals and people that live there. Plastic is present in larger and more concentrated quantities on land than in water.

**Effect:** Negative effects of plastic pollution It should be fairly obvious that such a large amount of non-degradable materials is damaging the environment and has long-term negative effects on humans, animals and plants. The waterway is seriously threatened by plastic and trash spills. If you've ever been to a landfill, try to imagine what happens when it rains. Now imagine that environmental toxins from reservoirs and the ground could seep into our drinking water. Outdoor burning of plastics causes pollution due to the release of toxic chemicals. When people and animals breathe the polluted air, it affects their health and causes respiratory problems. Land pollution from dumping plastic it reacts with water and produces dangerous chemicals. These substances contaminate nearby animals and the water supply, causing them to suffocate. It causes the death of animals. Based on the above, we now know how plastics affect the environment. Toxic chemicals are used in the artificial production of plastics, which is dangerous. Any exposure to plastics is therefore associated with a number of health problems that affect people around the world. Plastics are manufactured, handled, stored and disposed of, and even just being around them can be very harmful to living things. These tiny plastic particles can be harmful to our health once they enter us. Plastic products contain chemical additives. Infertility, neurodevelopmental disorders, and hormone-related cancers are just some of the serious health problems associated with these substances. Eye irritation,



vision problems, respiratory problems, skin and respiratory disorders, lung problems, headaches, dizziness, birth defects, reproductive problems and cardiovascular problems are just a few of the many health problems that affect people.

#### **FINDINGS:**

- a) 10% of plastics produced are used only at home, but 84% of people use plastic waste outdoors.
- b) 100% of people know the impact of plastic pollution on land and water.
- c) 100% of people know the impact of plastic pollution in agriculture.
- d) 66% of people know that plastic is not biodegradable, and 34% of people respond sometimes.
- e) 34% of people throw plastic in the dustbin but 16% of people do not throw it in the dustbin and 50% of people respond sometimes.
- f) 100% of people respond to others about disposing of plastic waste.
- g) 76% of people know techniques to control plastic pollution, but 24% of people respond "NO", which means they do not know these techniques.
- h) Only 14% of the respondents know the laws and penalties for plastic pollution in India, but more than 86% of the respondents do not know the laws and penalties for plastic pollution in India.
- i) 26% respondents from Serfanguri agree with Swachh Bharat movement to control plastic pollution but 24% respondents said NO and 50% respondents cannot say.
- j) 100% of respondents from Serfanguri cannot say if they participate in other actions to control plastic pollution.
- k) 93% of respondents burn plastic waste at home, but 7% of respondents do not use it to burn plastic waste at home.

#### **SUGGESTIONS:**

- a) To combat the improper handling of plastic waste by villagers, we should take immediate action. Education plays an important role in this.
- b) We educate them about the hazards of plastic pollution and other improperly managed waste, as well as how to manage their waste properly.
- c) Throw the plastic waste in a dustbin or burn the plastic waste.
- d) Do away with plastic products such as water bottles, toys, electronic devices, plastic bags, etc.
- e) Pick up what you can and throw it in a trash can.
- f) The government must tax single-use plastic and provide economic incentives for it, or we must reduce the daily use of plastic and reuse it.
- g) Strict policy and administrative regulations should be implemented and monitored.



- h) Take your bags for shopping and pack your lunch in reusable containers.
- i) In Serfanguri area, 60% of people are farmers, or more than 75% of people have vegetable garden for daily food. And 45% people don't know about the impact of plastic pollution. If we need a good environment and want to protect against plastic pollution, we must first educate these 45% people about the effects of plastic.

## CONCLUSION:

Awareness of plastic pollution is not just a local problem, but a problem for the whole country. The aim of the study is to analyze the plastic pollution in the population of Serfanguri area. Therefore, the researcher has taken the step to find out the awareness, causes and effects of plastic pollution among the people of Dotma Block in Serfanguri area. In Serfanguri area, there are so many problems and impacts of plastic that have been studied. The environment in Serfanguri area is getting more and more polluted due to the use of plastic products such as plastic bottles, plastic bags and so on. If we want a good environment, we need to protect against plastic pollution. However, they also need the support of the government as well as the public and awareness of plastic pollution in every area of Dotma Block. It is the duty of people to develop proper plans and strategies to protect our environment from plastic pollution. Because it became clear from all aspects of research that without pollution and impact, no one can live a good and healthy life.

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