



প্রতিধ্বনি the Echo

Pratidhwani the Echo

A Peer-Reviewed Indexed International Journal of Humanities & Social Science

Published by: Dept. of Bengali

Karimganj College, Karimganj, Assam, India

Website: <https://www.thecho.in>

ISSN: 2278-5264 (Online)

ISSN: 2321-9319 (Print)

A Study on Soil Pollution With special reference to Market Area of Serfanguri, Kokrajhar, Assam

Neeta Baglari

Abstract

Environment is the immediate surrounding space around man. Man has played a key role in modifying the environment in his constant efforts towards improving the standard of living. This led to thoughtless Urbanization, Industrialization and over-exploitation of resources. Now it has been realized that the environmental changes have exceeded the critical limits and the ecosystem is highly unbalanced. Further, the quantum of Solid waste substance such as newspapers, bottles, plastic bags, polythene, packing material and garbage have also increased drastically leading to pollution of different kinds, the worst affected being the soil. As such, there is an urgent need to control solid waste generated pollution, in which environmental education can play a vital role. This paper is an attempt to understand the causes, effects and awareness about the environmental degradation through soil pollution in the market area of Sefanguri, Kokrajhar, Assam.

Keywords: *Solid Waste, Environmental Degradation, Soil Pollution, Environmental Education.*

Introduction: The word Environment comes from the French word ‘environed’ which means ‘to surround’ or ‘to encircle’. The dictionary meaning of the word ‘environment’ is a surrounding; external conditions influencing development or growth of people, animals or plants; living or working conditions etc.

Environment refers to the sum total of conditions which is surround man at a given point in space and time. It includes abiotic (Physical) and biotic (plants, animals and man) components. So environment not only means our environment but also a variety of issues connected with human activity and its impact on natural resources. As long as mutual action, reaction and relationship of these components remain harmonious, the environment maintains a balance.

Dauglass and Holland defines that the term “Environment” is said to describe in the aggregate all the external forces, influences and conditions, which affect the life, nature, behavior and the growth, development and maturity of living organisms”.

In 1869, **Earnes Macked of Germany** for the first time introduced the concept of environmental consciousness.

Environment can be divided into three parts-

1. Natural Environment: It includes air, water, tree, forests, rivers, plants etc.

2. **Social Environment:** It includes all the socio- economic influence affecting mankind as population growth, employment, culture etc.
3. **Man- made Environment:** It include village, city, institutions, industries, roads, buildings, agriculture, transport etc.

Environmental Degradation means lowering the total environmental qualities due to various human activities. Human beings damage the basic structural components of environment for their selfish interest. Such activities bring adverse changes to all biological communities of the nature and to the human society as well. World is facing environmental instability which has reached a danger level. The serious environmental problems are not only posing a threat to man's own survival but also to fauna and flora. About 1 million species have already become extinct. Now it is feared that man- made insults to environment will bring ecological disaster. Man will destroy himself if he thoughtlessly upsets the ecological balance of which he is a part.

Environmental Degradation can be divided into two categories on the basis of factors responsible for the lowering of environmental quality and the level and magnitude of lower/deterioration of environmental quality.

- i) Extreme Events and Hazards and ii) Pollution

The word 'pollution' comes from the Latin word "Pollutus" which means made foul, unclean, or dirty. Pollution is usually defined as something that people produce in large enough quantities that it interferes with our health or well-being.

Odum (1971) states that Pollution is an undesirable change in the physical, chemical or biological characteristics of our air, land and water that may or will harmfully affect human life or that of desirable species, our industrial processes, living conditions and cultural assets.

In other words, **Southwick** (1976), states that Pollution is the unfavorable alteration of our environment, largely as a result of human activities.

Pollution is caused by human activity and is generally divided into two broad categories.

- i) Physical Pollution and ii) Social Pollution

Soil is a mixture of minerals, organic materials, living organisms, air and water. It is a thin layer covering the land and supports the growth of plants life. The soil is a natural resource for which no substitute can be provided. Donald Warster reminded people long back that soil and fertilizers are not substitute for fertile soil.

Decrease in the quality of soils either due to anthropogenic sources or natural sources or by both is called soil pollution or soil degradation.

One fourth of the earth surface is land. But the usable land for human activities is only almost 448 lakhs square kilometer (kms) as the remaining parts i.e., almost the half of the land surface are occupied by permanent snow cover, deserts, mountain, etc.

Land and soil pollution are rapidly and continuously growing problems as they are related to rapid growth of population, urbanization, industrialization, agricultural production and other related activities. Land is mainly polluted by solid waste disposal. The solid waste disposal remains in a place for relatively longer periods than the pollutants remain in water and air. Dumping of industrial and municipal wastage for a long time in the same place produced a liquid which diffuse through the soil and affect the ground water.

The formation of soil is a slow process as the formation and development of one inch of soil require about one thousand years whereas the destruction of soils through erosion and pollution is quick process. The quality of soil depends upon the nutrients both organic and inorganic, humus content, moisture, temperature etc. present in the soils.

The dumping of domestic and municipal wastes although considered as less effective to cause diseases in human body but are hazardous to human health. Its impact on environment

and on human health is considered serious. Diseases like dysentery, diarrhea, plague, malaria and some other diseases occur due to indiscriminate dumping of wastage.

The main factors of soil pollution are accelerated rate of soil erosion consequent upon major land use changes (e.g. deforestation); excessive use of chemical fertilizers, pesticides, insecticides and herbicides; polluted waste water from industrial and urban areas; a few micro- organisms; forest fires; dumping of urban and industrial solid wastes; water logging and related capillary process; .leaching processes; drought; etc.

Description of the study area: Serfanguri market area is taken for the study. Serfanguri is a rural area; NH-31 passes through the market, 28 kms away from Kokrajhar town which lies under Dotma Block of Kokrajhar district, Assam. Serfanguri market area is surrounded by Ramfalbil Higher Secondary School, Ramfalbil on the northern-east, Serfanguri High School on the east, Janata College, Serfanguri on the south, Hel Prov. ME School on the west of Bazar. Besides these, Serfanguri police station, Serfanguri Dispensary and post office is also situated nearby on the east side of the market area.

Objectives of the Study:

1. To study the environmental degradation through soil pollution in the market area of Sefanguri.
2. To study the awareness among the people of market area with regards to soil pollution.
3. To know the affect of the soil pollution in the market area in different aspects of life.
4. To know the incentives taken by the people of market area for prevention.

Need and Significance of the Study- Serfanguri covers a wide area including schools and college. Few people are educated and many are left illiterate and are ignorant of the everyday life and causes of the environmental degradation.

There is a need to raise awareness among the people of Serfanguri especially the habitants of the market area and the shopkeepers. Incentives should be taken for prevention and management of environmental degradation.

Serfanguri market area is a crowded area where they are not conscious of the soil pollution through waste products- plastics, paper, metals, glass, ash and dust, mixed material, carbon and waste vegetables. There is lack of dustbin and hence drainage system are blocked due to the waste products thrown on it. Hence there is also the prevalence of water logging because of the blockage of drainage system.

The qualities of domestic and municipal wastes are related to population growth and production of plastic materials. The use of various undisposable waste (plastic material) and other household garbage along with municipal wastes polluted the soil and land greatly.

Environment is the sum total of the whole circumstances that assert their influences on the individual from the moment of their birth till death. In other word, everything that surrounds an individual may be said to be environment.

Harmful effects that can be caused by soil pollution are-

1. Particles that flow with the water to the land may clog the micro holes of the soil and also destroy the micro organisms necessary for the soil.
2. Soil and land pollution when decompose various types of waste material produce harmful gases and bad smell, thus pollute the environment. It becomes more harmful when mixed with chemicals.
3. The municipal and domestic waste are also source of land pollution. These are most often discharged in water bodies and caused water pollution.

4. Soil waste produces bacteria which may transmit from soil to man and cause some diseases like dysentery, cholera, tuberculosis, typhoid, paratyphoid fever etc.

Education about environment should be given to the people because environmental education is a process for providing knowledge to the learner to develop desirable attitude, awareness, understanding and skill towards natural and manmade surroundings necessary for total human development and living facilities. Environmental education should start finding out various causes of environmental problems and it should endowed learner with knowledge of preventive measures against these problems.

Role of Education in Preventing and Controlling Environmental Pollution:

Education is considered as an instrument of social change, as well as social control. Education plays significant role in controlling and solving the social problems. Environmental pollution is the serious problem at global, regional, national as well as local levels. The following methods can be used in solving the problems at these levels:

1. Providing the awareness of environmental pollution in every type of educational institutions.
2. Providing the specific and more scientific knowledge subject wise.
3. Organizing orientation programmes and courses for administrators, executives and the authorities at different levels.
4. Interdisciplinary seminars, conferences, group discussion at regional and local levels.
5. Including 'Environmental Education' as a compulsory course and organizing some project work in teacher- education programme.
6. Scouting, girls guiding N.S.S. Programmes and village workers should be provided the awareness about environmental pollution and remedial ways.
7. Encouraging the scholars for research studies on environmental pollution. These should be interdisciplinary in nature.
8. Environmental management, organization, impact assessment and agencies should work effectively and sincerely in solving the problem of Environment.

Thus, there is a need to study the soil pollution in the market area.

Analysis of the Study:

1. From the survey, it is seen that environment is degrading through soil pollution in the market area of Serfanguri due to waste products thrown here and there. They do not maintain dustbin and throws all the waste products in the drain, due to which water logging took place. Bazar area results in bad odour- flies, diseases spread over the habitants of the area.
2. Most of the people in the market area are not aware of the soil pollution. Few of them are aware but still are not interested in dealing with these issues.
3. Soil pollution affects the people of Serfanguri market area. Diseases like dysentery, diarrhea, plague, malaria and some other diseases occur due to indiscriminate dumping of wastage in the area.

The dumping of domestic and municipal wastes although considered as less effective to cause diseases in human body but are hazardous to human health. Its impact on environment and on human health is considered serious.

4. People in the market area have not taken any incentive as a whole for prevention. Waste products are thrown after three or four days. Cleanage system for daily routine is not practical in nature whereas the shopkeepers or the habitants themselves managed themselves in cleaning their own surroundings.

5. During rainy seasons the whole Bazar area is shrunk in water where the public faces difficulties in daily life styles. It is due to misuses of drainage system by throwing waste products.
6. People are ignorant about using urinals and latrines and hence are unhygienic. They pass loo here and there and thus pollute the area with bad odour which becomes difficult for the laymen to go around the market area.

Conclusion and Suggestion: Pollution on soil is a man-made problem. Pollution being a man-made problem can be controlled by men themselves through various adoptable measures. Soil and land are mainly polluted by solid wastes that can be disposed through various technologies but it requires high amount of money. Man must be aware of not to make attempts for dumping and disposing solid waste on land so that top-soil erosion can be stopped. There are various inexpensive and commonly usable method for solid wasted disposal. These may be mentioned as sanitary land fill, open dumping and ocean dumping. The cheapest waste disposal method is sanitary land fill. These methods possess the quality of avoiding acute pollution problem normally occurs when waste are discharged into water ways or wastes are burn to ashes.

The Government as well as the individuals has realized the importance of environmental education in the present day context. Environmental education should be incorporated at every level of education- pre-school, formal and non-formal education.

Environmental awareness can be provided to students through the formal and non- formal system to students by introducing various programmes and including the content of environment in their study subjects. The United Nation Conference of Human Environment in Stockholm (1971) stated that environmental awareness may be developed by:

1. Identifying; analyzing and understanding the needs and problems of personal life including health, vocation etc.
2. Social life at different levels, viz., family, caste, community, religion, town, village life, state and country.
3. National life including civics, economic, etc.
4. Appreciating, promoting and using the environment to improve health, vocation, social and national life.
5. Interacting with government and social agencies and utilize the developmental facilities provided by these agencies in his/her individual capacity and also for organizing certain community activities.
6. Develop the aesthetic sense to appreciate beauty and adopt it in personal and social life.

There is a need for generating an awareness of environmental problems in view of the growing conflicts between short and long term goals of development. Awareness tends to lead to analysis of issues. Analysis promotes action. Education is fundamental to the fostering of a healthy and dynamic awareness- analysis- action chain. Studies on environment should be introduced right from the low levels and continued to the highest level of education. Students need to understand the environmental issues and solve them in an effective manner. By doing this they are able to utilize a problem- oriented approach from real-life situations.

References books:

1. An introduction to Environmental Education- By Sherwin May Sungoh
Akashi Book Depot, Don Bosco Road, Shillong.
2. Environmental Education- By L.D. Saini, Kalyani Publishers, Ludhiana.
3. Environmental Education – By R.A. Sharma, R. Lall Book Depot, Near Govt. Inter
College, Meerut- U.P.
4. Environmental Education and Population Education- By Dr. Meean Kumari
Goswami, Asian Books Private Limited, New Delhi.