IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

"RIVERS OF DEATH"- SYMBOLISED BY RACHEL CARSON

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1.INTRODUCTION:

Silent spring is an ecological work by Rachel Carson and it describe about the dangers of the Pesticides on the environment, Rachel Carson voice out the dangerous of pesticides and researched about it and found that pesticides like DDT (dichloro-diphenyl-trichloro-ethane) could have widespread effects in a large amount and tending to a vast number of species, not only plants. Rachel Carson thought, that everybody must know the correct reason and the precaution. she decided to write all the ideas, effects and precaution in her book. Rachel Carson started to report about the pesticides, that was the result of a "fire ant eradication program" in 1957, where the DDT mixed with fuel oil and it was sprayed on private and public land, after the publication of silent spring a grassroots political movement that lead to the creation of the environmental protection agency in 1970 and ban on DDT in 1972.

Rachel Louise Carson was an American marine biologist, author and conservationist, later she began her career as an aquatic biologist and became a full-time writer in 1950. "The Sea Around Us" became a best seller and received some prices like the John medal and Henry G. Bryant Medal from the Philadelphia geographical society as a first woman to receive them. "Under the Sea Wind" are also best sellers, late in the 1950, Carson turned her attention to conservation, especially some problems she believed where caused by

synthetic pesticides, and that resulted the book silent spring that brought environmental concerns to an unprecedented share of the American people.

2.OBJECTIVES:

The main objectives of this research will be:

- People must be aware of environmental resources
- To take good care of plant life, animal life and bird life
- To know the effects of synthetic pesticides
- To avoid chemical farming
- Ready to take steps for precautions

3.Environmental effect:

Environmental disasters were many after World War II. Oil pills, lead and asbestos poisoning, toxic waste contamination, global warming, acid rain, nuclear reactor disaster were the incidents which appeared frequently in newspapers. Mid-eighties of twentieth century marked the birth of environmental studies as many writers started contributing their works to the welfare of the environment. Americans are the pioneers in this field. They started associations like ASLE (Association for the Study of Literature and Environment) and organized annual conferences.

Most problems result from misuse, abuse and overuse of pesticides. Most risks are associated with all chemicals; whether they are industrial chemicals, pesticides, house hold products or even chemicals found in the environment, it raises a number of environmental concerns. The main issue discussed by Carson in her book is about pesticides. She has revealed about different types of pesticides like Dialdrin, Aldrin, Endrin, Parathion,Malathion, Chlordance, Heptachlor epoxide, Chlorinated hydrocarbons and DDT.

These were the diabolic weapons of modern science used widely to kill bugs and insects. People had to pay price for this indiscriminate usage. Modern science is believed to have led man in a progressive path but the repercussions are severe which was realized only after few decades. The agro pesticides, one among such invention, poisoned the whole living chain from insects to humans.

4.DDT (dichloro-diphenyl-trichloro-ethane):

DDT was created in 1874 by Paul Hermann Muller until 1939 it was used as an insecticide. Every person on earth is contaminated with dangerous chemicals to one degree of another. Now it is used so much that it seems safe to most people. During the war soldiers, refugees, and prisoners were dusted with it to kill their lice. They didn't fall sick immediately, so it was presumed that they would never became sick and so felt that DDT was harmless to people. It was used in powder form later.

Dieldrin is five times as toxic as DDT when swallowed and 40 times as toxic as DDT when absorbed through the skin. People who are poisoned usually go into convulsions. They usually recover slowly and suffer chronic effects. Dieldrin is one of the most widely used insecticides. It has caused an appalling destruction of wildlife. Scientists don't know much about how Dieldrin is stored in the body. They know that it is like a sleeping volcano. Its effects are felt when people go through physical stress in which they have to draw on fat reserves.

Scientists learned a lot about it when it was substituted for DDT to fight malarial mosquitoes that had become resistant to DDT. The people who did the spraying had seizures and some of them faced death.Synthetic pesticides are one among such dangerous chemicals. The industries for making and selling synthetic chemicals have grown enormously. These chemicals came into use by private industries after World War II. They had been used for chemical warfare and scientists discovered that this results in killing insects too.

These human-made chemicals differ greatly from naturally occurring chemicals. DDT and other chemicals are passed from one organism to another through links in the food chains. DDT was used in the second half of World War II to limit the spread of the insect diseases malaria and typhus among civilians and troops. It is colourless, tasteless, and almost crystalline chemical compound, an organochloride. Originally developed as an insecticide, it became infamous for its environmental impact.

5.The Evidence of Carson:

Rachal Carson describes the place Sprindale in Pennsylvania where the bird life began to destroy, a town in the heart of America situated at the midst of a checkerboard of prosperous, farms with fields of grains, and they were many travellers to visit, but after spraying DDT the changes happened. This tells about the use of toxic chemicals in the countryside and of the widespread destruction of wildlife in America.

Birds plays an important role in the functioning of world ecosystem, Many farmers know the role of birds play in helping them to control the agricultural pests. Rachel Carson denotes the symbol of silence, that birds function as an Emblem of the loss of wildlife, so Carson wants to give the public a voice by citing local accounts all over the country of dwindling bird populations after spraying DDT against elm disease or fire ants.

When the birds ate earthworms that had ingested the poison they put into debt and when the DDT was sprayed on the leaves, it fell in the autumn and decayed into a mulch. Similar studies show that 86% - 88% of Robbins had died because the reproductive organs of birds were found to contain dangerous levels of DDT, and this reached other species as well and affecting a whole chain of animals for which earthworms are the major elements of their diet, and the insects ends up thriving while birds are destroyed.

Even the Mammals are also affected. Raccoons eat earthworms as do opossums. Shrews and moles eat them and they themselves are eaten by owls and other predators. Along with convulsions hawks and owls were found in the last stages of death. Not only ground eaters, but also tree top eaters are hurt by the insecticide spraying and birds which feed on the insects of trees are killed.

Although water is a fundamental part of human life, Carson focus on unknown substances mixed with drinking water that humans consume and she also found many dead and dying fish on the riversides. Surveys of the river population showed not only a loss of the young fish, but serious changes in the river itself. Even animals were also affected by spaying these chemicals. Dr. Otis Poitevint, a veterinarian, saw many sick farm animals, including a calf that was exposed from his mother's milk, and this raises new concerns about transmission to children.

They first involved in the fish of running streams of the northern forests and the single problem of forest spraying. The second involves many different kinds of fish that inhabit both flowing and still waters all over the country. It also involves the wide use of insecticides for many agricultural uses. The third problem involves what is to be expected in the future. This problem involves the fish of the salt marshes, the bays, and the estuaries.

The shore waters have been an extremely important place in the overall ecology. Fish use these waters as safe places for breeding and spawning. Shrimp also use these areas for their young. Shrimp are extraordinarily sensitive to insecticides. The threat to oysters and clams is even greater. They live on the bottoms of bays and sounds and tidal rivers, Pesticides kill the plankton that they feed on. There is much ignorance in regards to chemical poisoning of waterways.

It is unknown how many chemicals are poisoning bodies of water and waterways or what their combinations will produce. We do not know what kinds of changes these chemicals undergo from the land to the ground water to the waterways to the oceans. The fisheries of the fresh and salt water are invaluable resources. People must know the effects of these chemicals and natural and non-toxic solutions to the problems. Carson denotes that:

> These sprays, dusts, and aerosols are now applied almost universally to farms, gardens, forests, and homes - nonselective chemicals that have the power to kill every insect, the 'good' and the 'bad', to still the song of birds and the leaping of fish in the streams, to coat the leaves with a deadly film, and to linger on in soil all this though the intended target may be only a few weeds or insects. (25)

Pesticides are known to be one of the extremely useful and beneficial agents for preventing losses of crops as well as diseases in humans. Based on the action, pesticides can be classified as destroying, repelling and mitigating agent. Pesticides provide primary as well as secondary benefits. The former ones are obvious after direct usage of pesticides such as the killing of insects that feed on crops and it resulted well so they used for long periods. she stated that,

> All this has come about because of the sudden rise and prodigious growth of an industry for the production of man-made or synthetic chemicals with insecticidal properties. This industry is a child of the Second World War. In the course of developing agents of chemical warfare, some of the chemicals created in the laboratory were found to be lethal to insects. The discovery did not come by chance: insects were widely used to test chemicals as agents of death for man. (31)

The farm-fresh vegetables that one picks up from the market everyday are in mostly misleading, that may be more toxic. Scientific studies have highlighted that pesticide exposure is correlated with serious health risk, including cancers, endocrine, and disruption causing reproductive health disorders, organ damage, and immune system impairment. There are problems with the regulatory system also which is related to chemical pesticides in the country.

6.CONCLUSION:

Rachel Carson gave alternative solution, First to cut off all the poisoned trees and cultivate new one. Next to ban the DDT. This made public to stand favour to her, and the industry's response to "*Silent Spring*" proved more aggressive. So Industrious people wanted to ban this book because that would harm their prosperity. But Carson also had powerful advocates, among them President John F. Kennedy, who established a presidential committee to investigate pesticides and resulted to ban DDT.

Carson articulates the truth of pesticides, her book still inspires activists all around the world today and she argues, the choice is not simply whether to save birds or trees, people must be attentive towards it. And in order to protect their environment, people started to follow the solutions given by her, then environmentalism was born.

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