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Impact of Industrial Effluent Water on Agricultural Land

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Preface

The contamination and quality of irrigation water is of the main concern especially in the regions with limited water resources. In such region not only, the water resources should wisely be utilized at the same time should be prevented from contamination. The Effluent water discharged by all kind of industries in the most important sources of soil and water contamination. The supply of water effluent through rivers has some serious repercussions on health effects as well as affects land productivity. Crop production suffers from using contaminated irrigation water form both surface sources and from ground water aquifers. In this context an attempt is made to study the socio-economic impact of effluents discharged by the industries in Coimbatore Region, Tamilnadu.

I am greatly indebted to the Board of Management of Sree Saraswathi Thyagaraja College, Pollachi, whose constant and affectionate interest in my progress has been the source of inspiration for this publication. I am happy to extend my profound thanks to Dr. V. Kulandaiswamy, Principal, Sree Saraswathi Thyagaraja

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S. JAGADEES PANDI

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List of Abbreviations

ANOVA	- Analysis of Variance
BOD	- Biological Oxygen Demand
CETP	- Common Effluent Treatment Plant
COD	- Chemical Oxygen Demand
CPCB	- Central Pollution Control Board
EC	- Electrical Conductivity
FAO	- Food and Agricultural Organisation
IETP	- Individual Effluent Treatment Plant
LEC	-- Loss of Ecology Authority
MEC	- Marginal External Cost
MPC	- Marginal Private Cost
MPB	- Marginal Private Benefit
MSB	- Marginal Social Benefit
MSC	- Marginal Social Cost
NGO	- Non Governmental Organisation
PAC	- Public Accounts Committee

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- PWD - Public Works Department
- SSI - Small Scale Industries
- TDS - Total Dissolved Solids
- TSS - Total Suspended Solids
- TNPCB - Tamilnadu Pollution Control Board
- UNDP - United Nations Development Programme
- UNEP - United Nations Environment Programme
- UNIDO - United Nations Development Organization

Introduction and Design of Study

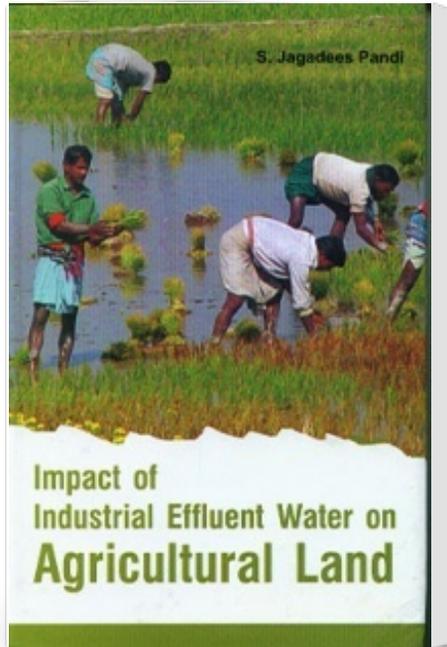
The economy and the environment are not separate entities. Economy forces changes on the environment, which in turn react back forcing unforeseen changes in the economy. The environment can be defined as the physical surrounding of man of which he is a part and on which he depends the activities like physiological functioning, production and consumption, where as the economy focuses on the well-being of an individual and societies. The physical environment of human stretches from air, water and land to natural resource like energy carriers, soil and plants. The relationship between environment and economy is multi-fold and a multi faced with a qualitative well as a quantitative aspect to it. For example, the definition of pollution in economics is based not only on the physical effect on the environment but crucially on the human response to the physical effect. The physical effect can be biological (or) chemical while the human response is a result of loss of welfare¹. Thus physical scientists base their perception of pollution solely on the physical effect on the environment, while economists rely on perceived utility losses to recognize pollution.

Industrial pollution has been a major factor causing the degradation of the environment around us, affecting the water we use, the air we breathe and the soil we live on. This Industrial environmental pollution is the major problem associated with rapid industrialization along with urbanization and raises in standard of living of the people. For developing country, industrialization is must and still this activity very much demands to build self-reliant and in uplifting nation's economy. Therefore rapid pace of industrialization not only increases the output level but also causes a serious threat to human welfare. Water is polluted not only by industries but also by households. Both industries and household's waste water contain chemical and biological matter that imposes high demands on the oxygen present in water. The polluted water contains low levels of dissolved oxygen as a result of the heavy Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) placed by industrial and household waste materials discharged into water bodies and water systems, both above and below the earth surface. In addition to levels of dissolved oxygen in water, industrial wastes which contains chemicals and metals, that are directly harmful to human health and the eco system².

Environmental Degradation

In the literature of *Wikipedia*³ and Encyclopedia environmental degradation is the deterioration of the environment through depletion of resources such as air, water and soil. When the environment becomes less valuable (or) damaged, environmental degradation is said to occur. There are many form of environmental degradation. When habitats are destroyed biodiversity

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