

Chapter 7

Detrimental Impact of Plastic Outcome on Agriculture: Biggest Threat to Environment

Shivom Singh

ITM University Gwalior, India

Prachi Dixit

ITM University Gwalior, India

Kajal S. Rathore

Government KRG Autonomous College, India

Neha Sharma

Amity University Madhya Pradesh, India

ABSTRACT

Generally, plastic is made up of non-biodegradable chemicals i.e. polyolefin, polyester, and polyurethanes. This is hardly surprising since the use of polythene bags has infiltrated all sectors of economy, agriculture, consumer goods, and especially in packaging, where polythene is increasingly replacing jute, paper, wood, and glass. Polythene bags can release harmful chemicals into the surrounding agricultural soil, which can then seep into ground water or other surrounding water sources. This can cause serious harm to the species that drink this water. Unlike natural organic material they do not disintegrate with time but keep accumulating in the environment. So it is very difficult to dispose of the polythene bags. If the polythene bags burned in agriculture land, they release harmful chemicals like Cd, Pb, CO, NO_x and SO₂, which causes many diseases in animals as well as in human beings. The accumulation of polythene bags also makes agricultural soil sterile/barren as it stops the gaseous exchange. In normal agricultural land, the concentration of oxygen is 3 ppm. Where polythene is present, the concentration of oxygen in soil decreases to 0.001 ppm. In addition, the polythene pollution can adversely affect agricultural lands, waterways, and oceans.

DOI: 10.4018/978-1-5225-9452-9.ch007

INTRODUCTION

At present stage, plastics are everywhere, in our home, school, work, playground, parks, and beaches; life without plastic seems to be impossible due to light in weight, low in cost, durability and easy manufacturing in any shape make it popular in a very short time. Accretion of plastic-based products in the environment shows harmful effects on wildlife, marine life and terrestrial life and human is a main concern for this crisis. The other main quality of plastic is that it is not easily decomposed therefore; chemical structure of most plastics renders them resistant to many natural processes of degradation. Plastic also pollutes without being littered purposely, through the discharge of compounds used in its manufacture. Indeed, pollution of the environment by chemicals leached from plastics into air and water is an emerging area of apprehension.

Number of studies show that, more than six million tons of plastic waste goes un-recycled every year in India. Over the past decade we have produced and consumed extra plastic than the entire century. The plastic pollution can harmfully affect lands, water streams and ocean along with animals that are widely injured or killed by plastic pollution. Plastics are a variety of synthetic or semi-synthetic polymerization goods that can be formed into a permanent article having the possessions of plasticity. Community are using plastic bags, which are environmentally hazardous, for they're on a daily basis requirements generally for shopping purposes as an outcome of which, the environment and agricultural manure are thereby being polluted and contaminated too. Plastic Pollution has numerous harmful effects on the atmosphere such as on birds, fish, turtles, coral reefs, human health, and on tourism and the living of inhabitants. Discarded plastic bags which have also found their means into the land are not solitary extremely harmful but also sincerely detrimental for agriculture. Plastic bags are randomly discarded into millions of landfills wide-reaching which engage trillions of hectors of lands and release hazardous methane and carbon dioxide gases throughout their decaying phases in addition to extremely poisonous leachates from these landfills (Simmons, 2005).

Generally plastic is made up of polyolifins, polyester and polyurethanes, those all there chemicals are petroleum based and non-biodegradable. Big cities, town or even the remote hinterland, plastic is ubiquitous and is causing harm to India's ecological balance which finally comes back to haunt us. Though if seen globally, the crisis in India is relatively less grave but citing the population and increase in usage in plastic over some year. It is used in every field of life as it unaffected by moisture, acids and base. The stability of plastics and their possible for various applications, as well as extensive use as disposable substances were expected, but the troubles linked with plastic trash were not. It is supposed that public began to use plastic bags to hold groceries, foodstuffs and articles by hands or else in the 1970s, (Clapp & Swantoon, 2009) and these Polly bags became popularized speedily in the last part of the 20th century (Sugii, 2008). Thus, plastic bags should be prohibited global and their substitutes which are eco-friendly should be launched in order to determine these unbearable and poisonous troubles.

CONSUMPTION OF PLASTIC IN DIFFERENT AREAS

This is hardly surprising since the use of plastics has infiltrated all sectors of the economy. Infrastructure, agriculture building and construction, telecommunications, consumer's goods and packing are all high growth areas which indicate a spiraling demand for plastics. For instance, in packaging plastics

18 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/detrimental-impact-of-plastic-outcome-on-agriculture/233351

Related Content

Timing of the first antenatal care visit and associated risk factors in rural parts of Ethiopia

(2022). *International Journal of Applied Research on Public Health Management* (pp. 0-0).

www.irma-international.org/article//282739

Facets of the Evolving Healthcare Management Model

Anastasius S. Moutzoglou (2022). *Quality of Healthcare in the Aftermath of the COVID-19 Pandemic* (pp. 303-321).

www.irma-international.org/chapter/facets-of-the-evolving-healthcare-management-model/292435

Step Towards Interoperability in Nursing Practice

Daniela Oliveira, Júlio Duarte, António Abelhaand José Machado (2018). *International Journal of Public Health Management and Ethics* (pp. 26-37).

www.irma-international.org/article/step-towards-interoperability-in-nursing-practice/196594

Gastrointestinal Tract and COVID-19: Insights Into the Role of Gut Microbiome

Aaron Lelo Pambuand Abdellah Zinedine (2022). *Handbook of Research on Pathophysiology and Strategies for the Management of COVID-19* (pp. 127-140).

www.irma-international.org/chapter/gastrointestinal-tract-and-covid-19/287308

Smart Health for All: AI and Emerging Technologies in Rural Healthcare Systems

Shanmuga Sundari M. (2026). *Cognitive Security and Predictive Health Monitoring for Rural Development* (pp. 287-320).

www.irma-international.org/chapter/smart-health-for-all/407290