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Impact Of Improper Waste Disposal On Animal Health: An Exploration Through Environmental Toxicology

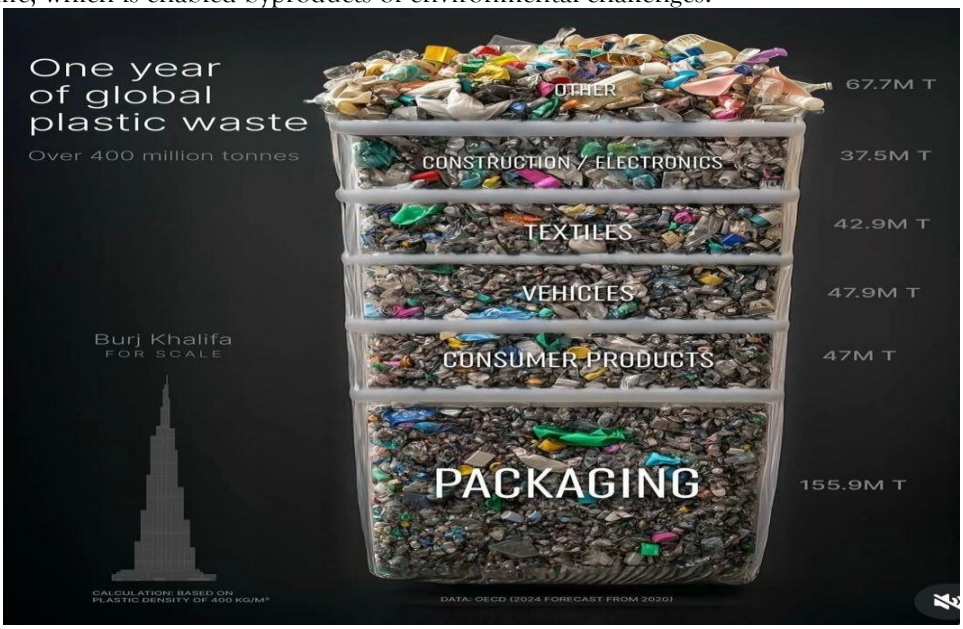
Dr.B.Neeraja,
Professor, School of Management Studies, Chaitanya Bharathi Institute of Technology, Gandipet, Hyderabad-500075.
E-Mail ID: drneeraja2012@gmail.com.

Abstract: *God has given equal rights and access to human and animals in his creation. Not only human beings all other living things in this world have equal rights to enjoy this nature and environment and their surroundings. But why are human beings so indifferent to these animals especially to the stay dogs, cats and other pitiable animals in their surroundings.? If they are not able to give proper food and shelter it is their wish , but they don't have any rights to contaminate the environment with all nonsense toxics, and toxic waste. They don't let the stray creature have peace of life. Improper disposal of plastic waste and other harmful substances also leads to great consequences for animals. Badly managed landfills in urban and rural areas harm animals that frequent these locations, which end up eating plastic and other hazardous materials, resulting in injuries, malnutrition, and a host of diseases. Environmental toxicology is an important field because it studies the effects of these materials on ecosystems and animal health. Consumption of Plastic and Hazardous Waste by Animals: Moving in the Right Direction but Too Slow With Sustainable Waste Management .This paper will explain how the state of research and existing gaps and address the need for waste management as an environmental and public health priority.*

Keywords: *Environmental Toxicology, Animal Health, Plastic Waste, Hazardous Waste Disposal*

INTRODUCTION

With the unprecedented growth of plastics production, together with their improper waste disposal, we are facing a huge burden on the ecosystems worldwide. Perhaps the worst effect is animals eating plastic and other poisons. In the oceans, on land or in cities, animals regularly confuse plastic for nourishment or are directly exposed to toxic waste products. Abstract: This paper explores the field of environmental toxicology and its consequences in human and animal health as it relates to incorrect disposal of waste. In appreciating the toxicological mechanisms here, we can understand how such waste negatively impacts animal life, which is enabled byproducts of environmental challenges.



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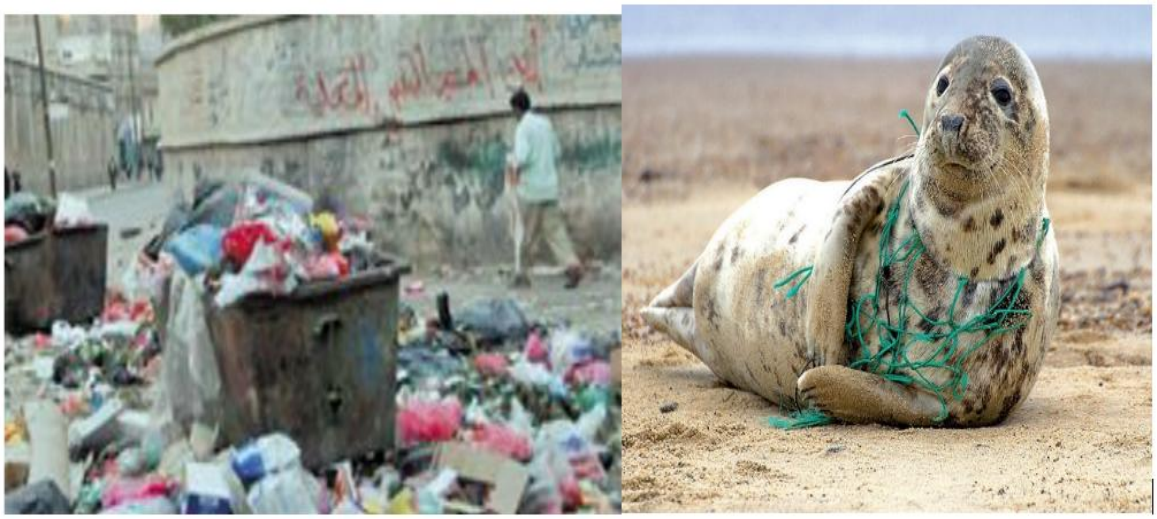
Environmental Toxicology and Its Effects

Indian cities generate more than 1,50,000 metric tonnes of urban solid waste every day. However, estimates by the Ministry of Environment, Forest and Climate Change of India show that only 75-80% of the total municipal waste is collected, and only 22-28% of it is processed.[11] Environmental toxicology relates to how the pollutants, such as dangerous chemicals and waste, affect organisms and ecosystems as a whole. The ecological effects of animal toxicant interactions can be profound and persistent. Floating and stranding animals may suffer from acute or chronic poisoning and injury, and long-term toxic health effects due to ingestion of plastics or exposure to toxic chemicals in their environment. In this case, marine organisms, including turtles, whales, and seabirds, can swallow plastic materials, leading to wounds, obstructions, and in certain cases, death. Terrestrial mammals are vulnerable to the same threats on land from hazardous materials carelessly discarded, like pesticides, heavy metals, and other chemical pollutants.In particular, plastic waste has become a part of several ecosystems in which it will stay for hundreds of years without breaking down. This long-term persistence leads to sustained exposure to the toxic substances locked within plastics. These materials are ingested by animals either deliberately or accidentally, causing numerous health issues. Ingestion of microplastics in many species has been associated with disrupted endocrine systems, reproductive dysfunctions, and digestive blockages.

Case Studies: Once Dumped, Animals Will Suffer

The most conspicuous instance of animal damage from rubbish disposal is in marine environments. Each year, more than 8 million tons of plastic waste find their way to the oceans, killing animals such as sea turtles, fish, and seabirds. Harm to over 800 species caused by marine debris. Marine debris ingestion impacts 40 per cent of marine mammals and 44 per cent of seabird species. Five of the large marine ecosystem (LME) regions with the greatest risk from coastal eutrophication include: Bay of Bengal, East China Sea, Gulf of Mexico, North Brazil Shelf, and South China Sea[9]



A study by the World Wildlife Fund estimated that at least 100,000 marine animals die from plastic pollution every year. This number is likely an underestimate, as it only accounts for a few species. More research needs to be done to determine the full extent of plastic pollution on marine animals.[10]Scientists have estimated that 50% of sea turtles have eaten plastic in their lifetime and both physical injury and lowered feeding efficiency, which can lead to death, are consequences of plastic ingestion.Over land, other terrestrial animals such as cattle, birds and small mammals also suffer similarly. Such as in places where waste management is lacking, animals eat food containers, which are likely to be contaminated with toxic elements. Consumption of plastic bags, foam, and other trash is toxic, as many plastics contain toxic additives, such as flame retardants, phthalates, and heavy metals. They may build up in animal tissue and lead to cancer, organ failure, and developmental disorders.

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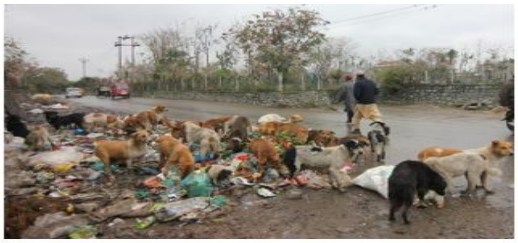
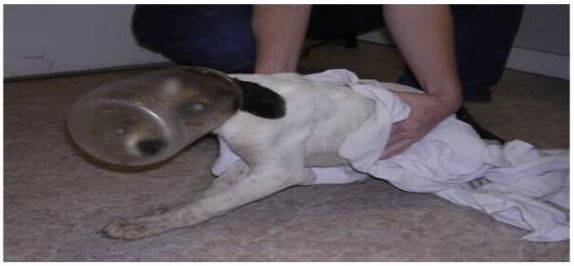
Knowledge and Research Gaps that Exist Now



Even with the improved recognition of the situation, much more work is needed to understand the complete scope of toxic waste, allowing animal health to suffer. Until now, most related literature has been dominated by studies in marine environments and has neglected terrestrial systems. This study adds more to our knowledge that the effects of different plastics and chemicals tend to be long-term rather than short-term, which needs more investigation and on broader animal species. The complex routes and toxicological mechanisms by which plastics accumulate and harm animal systems are more poorly understood (although the documented effects of ingestion of plastics are dozens) (Aufrecht et al., 2022). A third missing piece is that there are no standardized approaches to evaluate the health effects on wildlife of hazardous waste. Most of the existing studies reported different ways of assessing animal health and carried out toxicity alone or in combination, providing conclusions that are difficult to summarise. If we could develop some consensus around the methods used in research and data collection, this would contribute to a fuller picture of the problem.




Suggestions on How to Fix the Problem

To reduce the negative impacts of inappropriate waste disposal on animal wellbeing, the following strategies should be employed:

Improved Indian Waste Management Systems: Effective waste management systems are needed to reduce the inflow of plastic and other harmful materials into the ecosystems. Governments and businesses should invest in waste collection, recycling, and treatment systems that minimize wildlife exposure to toxic waste.

Raise Public Awareness: Prevention of littering may be effective, as well as improving on disposal methods by educating animal health professionals about the adverse effects of dangerous materials and plastic littering on animal health. It can also drive campaigns around providing alternatives to hazardous materials and single-use plastics, to reduce the overall waste burden.

Stricter Legislation Regarding Chemical Waste: More rigid regulations should be implemented to control the disposal of chemical waste. We need legislation to hold businesses accountable for safe disposal processes, as well as pressure on them to disclose/show the toxicity levels of the products they make.

Research and monitoring: Increase funding and support to learn about the potentially toxic impacts of chemical and plastic waste on multiple species of animals. Long-term ecosystem monitoring can also be employed to assess the effectiveness of waste reduction efforts and their impact on wildlife conservation.

Stricter Chemical Waste Regulations — Stricter regulations should be established to prevent chemical waste disposal. Businesses must be held accountable for appropriate disposal and required to disclose the hazards associated with the chemicals they produce.

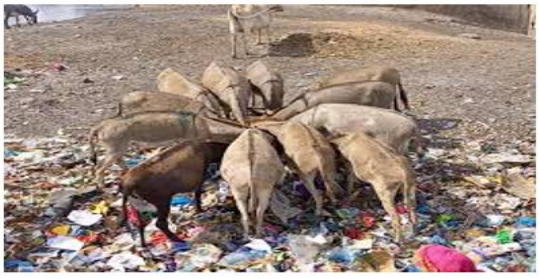
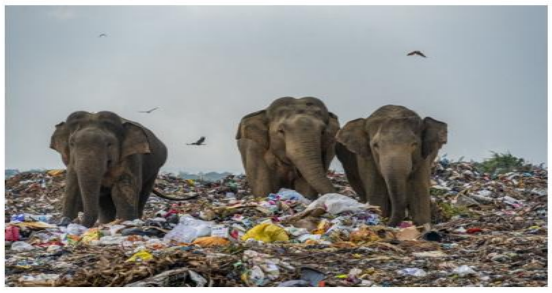
Research and Monitoring: Increase funding and support for research on the toxicological effects of chemical and plastic waste on the overall animal community. Ecosystem monitoring over longer periods can serve as a metric for evaluating the effectiveness of waste-reduction policies and their capacity to protect wildlife.

Development of New Biodegradable Alternatives: The environmental impact and toxicological impact related to plastic waste can be significantly reduced through the development and widespread use of biodegradable materials. Production and use could be accelerated with government grants and commercial partnerships.

What can we human being do:

WE HAVE BEEN BLESSED BY GOD WITH 6 SENSES. We all have some education on the damage plastic and other toxins eventually do to our bodies. Animals trust humans. They are innocent. They are like kids at home. If we cannot assist them with food, then at least let us leave them to fend for themselves. They are also from the same god that we are from. So here, I am making a humble appeal to the readers and general public:



Action 1: Global Goodness
Take the pledge to begin removing toxic household chemicals from your home to help save the environment. These harmful chemicals frequently enter the water supply and contaminate the air. We can choose natural cleaning solutions such as vinegar, baking soda, or eco-friendly products available in the market. Use organic pesticides/ fertilizers to replace chemical pesticides and fertilizers in your landscaping to avoid contaminating soil and waterways.
NOTE: Our Ancestors Never Used Pril /Sabeena Or Lizol /Harpic Or Any Of The Cracker Chemicals Liquids For Washing Vessels Or Cleaning Floors. They used turmeric for mopping their floors and they washed their vessels using a combination of ashes /mud with coconut fibre.

Action 2: Planet Protector
Building on Action 1, use water-based paints that do not contain poisons that may contaminate the air. Do not forget to dispose of hazardous waste properly — batteries, cleaning supplies, electronics — anything that cannot simply go into your trash, contributes to landfills and can easily leak into groundwater creating water and land pollution.
Note: In the past, people used vegetable colours for painting and colouring. Its nontoxic for any living being and also biodegradable. We have replaced these organic colours with chemical colouring damaging our surroundings and inhaling toxic smells to harm our health.

Action 3: Earth Angel
Action 3to support our action 1&2 : Use organic cleaning products on your vehicles and for pest control — these prevent the chemical leach into storm drains, so this connects with Actions 1 and 2. Opting for organic beauty products to prevent toxins from being filtered out of water treatment systems. Earth Angels: Be an emissary of change for a better world—one of health. Do everything with love and light, encourage and educate others to make eco-friendly decisions for a sustainable future for our planet!
Note: Old is Gold, we are preparing the old wine in a new bottle with an elegant touch. The pest control is fine with neem oil and other biodegradable items. Our people are back with organic products after having been reviewed countless times by Researchers out there. (Used as base for cultivating pulses/fruits/vegetables that are grown organically without using any pesticides, vermi-compost etc.)

Action 4: Reduce/ replace plastic ware and chemicals with bio degradable products:
United Nations Environment Programme (UNEP) estimates that over 300 million tons of plastic are produced every year, half of which is used in making **single-use items** such as shopping bags, cups and straws. Only nine percent of the nine billion tons of plastic the world has ever produced has been recycled, with the remaining ending up in landfills, dumps or in the environment. This includes at least eight million tons of plastic ending up in the oceans every year. Floating plastic debris is currently the most abundant item of marine litter, making up 80 percent of all marine debris.[12]

What can be replaced - OLD IS GOLD

- ✓ **Natural Cleaning Agents**

Earlier: Turmeric water, ash, mud, and coconut fiber were used for cleaning.
Now: Replace chemical cleaners with natural disinfectants like turmeric, vinegar, baking soda, lemon juice, etc.. These are biodegradable and non-toxic to animals.

- ✓ **Organic Pest Control**

Earlier: Neem oil, cow dung ash, and other natural extracts were used as insect repellents and fertilizers.
Now: Use neem oil sprays, garlic-chili infusions, and compost-based fertilizers to manage pests and nourish soil without chemicals.

- ✓ **Biodegradable Utensils and Containers**

Earlier: Banana leaves, areca nut plates, and clay pots were used for eating and storage.
Now: Promote the use of eco-friendly packaging like palm leaf bowls, clay cookware, and jute bags instead of plastic ware. Research has been successful complete to replace silk sarees with banana fiber , Jeans with

banana fiber etc. so out of the box thinking is required to come out solutions which can reuse or recycle the waste in replacing the toxic/plastic with bio degradable products.

✓ **Natural Dyes and Paints**
Earlier: Vegetable dyes, turmeric, indigo, and other plant-based colors were used.
Now: Encourage the use of plant-based dyes in textiles and non-toxic, water-based paints in construction.

✓ **Traditional Waste Management**
Earlier: Waste was composted or fed to animals; there was no concept of "garbage" as we know it today.
Now: Promote home composting, vermi-composting, and community biogas systems for organic waste.

✓ **Water Conservation Techniques**
Earlier: Use of rainwater harvesting, traditional stepwells, and community tanks.
Now: Modernize these systems using local materials and knowledge to conserve and purify water sustainably.

Reviving these time-tested practices — often low-cost and low-tech — not only supports the environment but also respects cultural wisdom passed through generations

Remember we are not getting inheritance of this earth from our great grand fathers rather we are borrowing form our children of next generation. We have to be concerned about our next generation future by implementing techniques to give them toxic free earth.

Which plastics are recyclable?

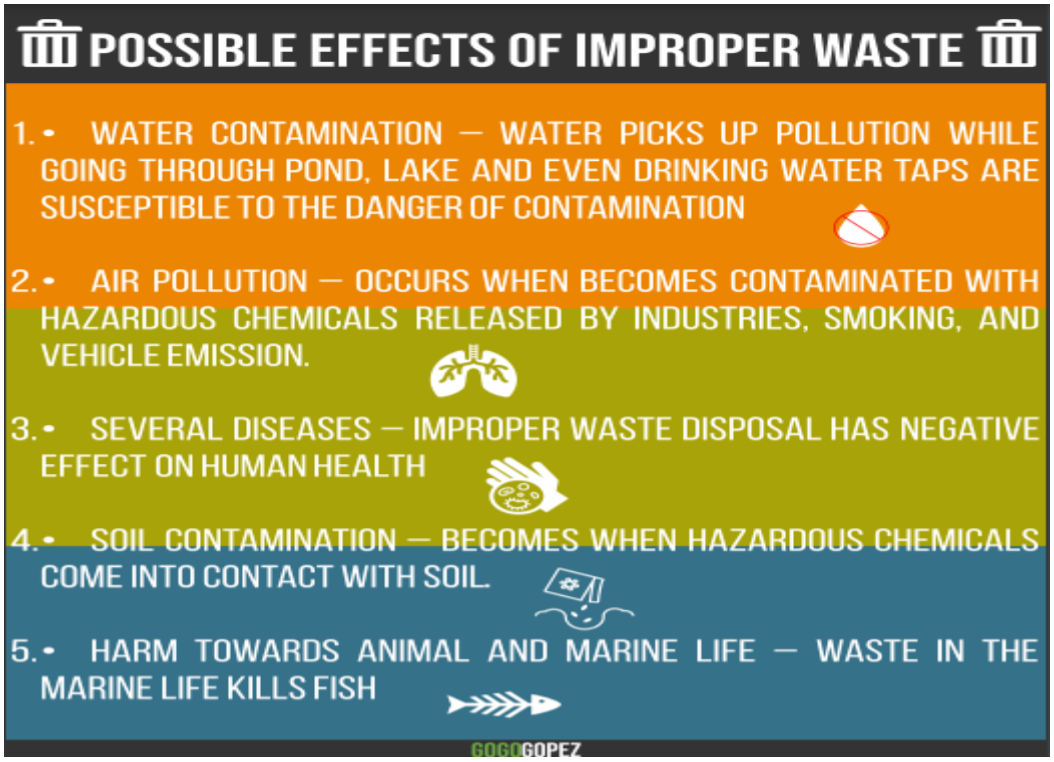
Summary of plastic polymer groups, their common uses, properties and recyclability.
Numerical coding (from 1-7) is typically provided on plastic items and gives information of their polymer grouping below. Recyclability is based on common recycling schemes but can vary between countries as well as regionally within countries; check local recycling guidelines for further clarification.

Symbol	Polymer	Common Uses	Properties	Recyclable?
1 PETE	Polyethylene terephthalate	Plastic bottles (water, soft drinks, cooking oil)	Clear, strong and lightweight	Yes; widely recycled
2 HDPE	High-density polyethylene	Milk containers, cleaning agents, shampoo bottles, bleach bottles	Stiff and hardwearing; hard to breakdown in sunlight	Yes; widely recycled
3 PVC	Polyvinyl chloride	Plastic piping, vinyl flooring, cabling insulation, roof sheeting	Can be rigid or soft via plasticizers; used in construction, healthcare, electronics	Often not recyclable due to chemical properties; check local recycling
4 LDPE	Low-density polyethylene	Plastic bags, food wrapping (e.g. bread, fruit, vegetables)	Lightweight, low-cost, versatile; fails under mechanical and thermal stress	No; failure under stress makes it hard to recycle
5 PP	Polypropylene	Bottle lids, food tubs, furniture, houseware, medical, rope, automobile parts	Tough and resistant; effective barrier against water and chemicals	Often not recyclable; available in some locations; check local recycling
6 PS	Polystyrene	Food takeway containers, plastic cutlery, egg tray	Lightweight; structurally weak; easily dispersed	No; rarely recycled but check local recycling
7 OTHER	Other plastics (e.g. acrylic, polycarbonate, polyactic fibres)	Water cooler bottles, baby cups, fiberglass	Diverse in nature with various properties	No; diversity of materials risks contamination of recycling

Source: https://www.insightsonindia.com/environment/environment-pollution-and-control/waste-management/plastic-waste/

CONCLUSION

The unauthorised disposal of plastic and toxic waste poses a severe and ongoing threat to animal health and the environment. From marine creatures to land-based wildlife, animals are suffering the consequences of human negligence, often ingesting or being exposed to harmful substances. Traditional eco-friendly methods and conscious consumer choices to use eco-friendly products and implement eco-friendly activities provide viable solutions to reduce this impact. By reviving natural practices, implementation of biodegradable alternatives, and strengthening waste management systems, we can create a safer planet for all species. Events conducted to create Public awareness, implementation of stricter regulations, and continued research are crucial in understanding and mitigating the long-term toxicological effects on ecosystems. As custodians of this mama Earth, humans bear the moral responsibility to protect vulnerable wildlife. Through simple but meaningful actions—like avoiding chemical products, reducing plastic use, and promoting sustainability—we honour our shared existence with animals and contribute to a healthier, more compassionate world. Let us act today for a cleaner, kinder tomorrow



REFERENCES:

1. https://www.sciencedirect.com/science/article/pii/S2405665024000702
2. https://wagwalking.com/condition/garbage-toxicosis-garbage-gut
3. https://www.thehindu.com/news/national/kerala/street-dog-menace-grows-fed-by-garbage/article7538912.ece
4. https://timesofindia.indiatimes.com/city/hyderabad/danger-lurks-at-dumps-hungry-packs-target-kids/articleshow/111826098.cms
5. https://www.newsclick.in/madhya-pradesh-flaws-biomedical-waste-management-rural-areas-i
6. https://earth.org/plastic-pollution-animals/
7. https://trityenviro.com/bd/in-india-how-hazardous-and-toxic-wastes-can-be-effectively-disposed/
8. https://healtheplanet.com/100-ways-to-heal-the-planet/toxic-waste
9. efaidnbmnnnibpcajpcglclefindmkaj/https://sustainabledevelopment.un.org/content/documents/Ocean_Factsheet_Pollution.pdf.
10. https://www.gvi.co.uk/blog/smb-how-many-marine-animals-die-from-plastic-pollution/
11. https://vajiramandravi.com/upsc-daily-current-affairs/mains-articles/stray-dog-bites-and-poor-waste-management/
12. https://theaseanpost.com/article/death-plastic-waste