



## HOW MUCH RIGHT AND WRONG THE USING OF PESTICIDES

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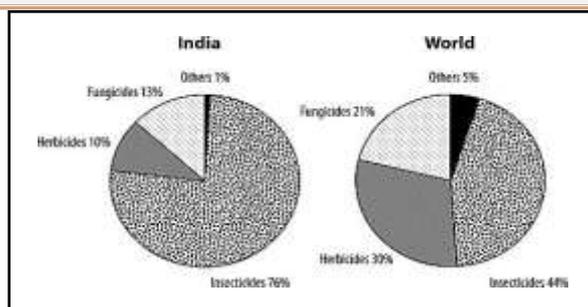
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### ABSTRACT

*The word pesticide includes a broad variety of compounds from insecticides, fungicides, herbicides, rodenticides, molluscicides, nematocides, controls on plant growth and others. Among these, organochlorine (OC) insecticides, which were widely used to combat a variety of diseases, such as malaria and typhus, were prohibited or limited in most technologically, advanced countries after the 1960s. Other synthetic insecticides, such as organophosphate (OP) insecticides in the 1960s, carbamates in the 1970s, and pyrethroids in the 1980s, as well as the introduction of herbicides and fungicides in the 1970s–1980s, aided in pest control and agricultural production significantly. A pesticide, in an ideal world, would be lethal to the target pests but not to non-target animals such as humans..Sadly the widespread use of these chemicals has played havoc with human and other forms of life.*

***Kye Words :*** *pesticide, fungicides, herbicides, rodenticides, molluscicides, nematocides,*

Production and Usage of Pesticides in India From 5,000 metric tons in 1958 to 102,240 metric tons in 1998, India's production of technical grade pesticides has steadily increased. Pesticide value-related demand was estimated to be around Rs. 22 billion (USD 0.5 billion) in 1996–97, accounting for about 2% of the global market. To the world at large, the pattern of pesticide use in India is different from that. In India, insecticide is 76 per cent of the pesticide used, compared to 44 per cent worldwide. A correspondingly less heavy use of herbicides and fungicides, Pesticides primarily used in India are cotton crops (45 percent), followed by paddy and wheat



**Figure 1.1: Consumption pattern of pesticides**

The primary benefits are the results of the pesticides' effects—the immediate gains anticipated from their use. Stopping caterpillar feeding on grain, for example, has the primary benefit of increasing yields and improving cod quality. The three main effects result in 26 primary benefits ranging from recreational turf defense to human life saving. Secondary benefits are those that are less immediate or visible as a result of the primary benefits. As a result, secondary benefits are often more difficult to determine cause and effect for, but they may also be effective justifications for pesticide use. For example, a higher yield of cabbage could generate additional revenue that could be used for education or medical care for children, resulting in a healthier, better educated community. There are numerous unintended consequences discovered, ranging from suitable people to preserved biodiversity.

Population growth, increased urbanization and motorization, dietary shifts, and climate change are the primary reasons for tightening the world's food supply. Furthermore, agricultural land is being used to process more bioenergy and other bio-based commodities. To meet the growing global food demand, an increase in the productivity of existing farmland would have to meet the expected output growth in large part. This will be difficult to achieve, however, because the Green Revolution has resulted in a decrease in global agricultural productivity growth. In addition to reducing waste throughout the food chain, successful crop protection measures must be prioritized in order to reduce future crop losses due to pests. Cost-benefit analyses are useful tools for making policy decisions about the use of chemical pesticides. The economic, environmental, and public health impacts of pesticides are calculated monetarily. There are also several difficulties in the calculation of the full spectrum of benefits and pesticide usage costs. Chemical pesticides will continue to play a role in pest control, as product compliance with the environment is growing and there are no widely available viable alternatives. Pesticides provide farmers with economic advantages, and by expanding them to customers.



The advantages of using a pesticide are extremely risk-relative. Non-target consequences of human and environmental exposure to contaminants from pesticides continue to be a concern. By developing the applications technology, the side effects of pesticides can be minimised. Innovations in plant-based pesticide delivery systems aim to further minimise, but are not expected to eradicate, adverse environmental impacts. Using pesticides correctly can bring major socio-economic and environmental benefits. There are also few resources for successful and environmentally sustainable management methods for pest control. In certain countries such rewards as taxes and fees for the use of different types of chemicals have been proposed but the overall demand for pesticides is not significantly reduced.

A concerted research and policy effort should be made to improve the effectiveness of alternatives to chemical pesticides for the diversification of the “toolbox” pest control. But the development of alternative pest-management solutions will be crucial to meeting production expectations, and robust competition in these niche markets is expected. New scientific knowledge and advanced technology give significant opportunities to further reduce current yield losses and mitigate potential effects of climate change on plant health, particularly for developing countries.

Continuously seeking innovative cost-effective and environmentally sustainable ways to help manage pest and disease issues is crucial to improving the poor’s health and livelihoods. “More critical than ever is now the need for a more comprehensive and modernised approach to IPM in low-income countries. To resolve biological, biochemical and chemical research which can be applied to ecologically based pest management, overall expenditure in pest management and the rate of new discoveries should be increased. In private-sector research there is underinvestment from a social viewpoint, since businesses can only seek to exploit what is called the surplus of suppliers.” Companies will compare their projected earnings from their research-based proprietary products and will not consider the advantages for both customers and users. Investments in public sector research should highlight certain areas of pest control not pursued by private industry. Adding organic pesticides and using highly hazardous pesticides that kill farm workers is therefore unethical. Government agencies should take these alternatives into account and offer farmers constructive assistance in transitioning to environmentally sound, viable, and safe farming practices.



Pesticide residues will be reduced through preventive measures such as reasonable pesticide use, washing and proper handling of food products, organic farming, use of natural pesticides and biopesticides, and effective enforcement and modification of pesticide-related legislation. While pesticides were originally used to benefit human life by increasing agricultural productivity and preventing infectious disease, their negative effects outweighed the benefits of their use. Drinking contaminated water, breathing contaminated air, or eating contaminated food has resulted in a slew of acute and chronic human illnesses. “This is when pesticides must be used properly to protect our environment and potential health hazards. Alternative pest management strategies, such as IPM, can reduce the amount and quantity of pesticide applications by combining various control measures such as cultural control, genotype resistance, physical and mechanical control, and pesticide judicious use. Biotechnology and nanotechnology, for example, can be used to create more resistant genotypes or pesticides with fewer side effects. Community development and a variety of extension programs that educate and inspire farmers to implement innovative IPM strategies are critical to reducing pesticides' negative environmental impact.” While we have begun to accelerate progress in identifying specific pesticide associations with specific health effects, our task is far from complete. More epidemiological research is needed to test specific pesticides and their modes of action on a variety of health outcomes in order to provide food protection. Creating risk management strategies that maximize benefits while minimizing risks necessitates identifying the most vulnerable outcomes and balancing short- and long-term risks.

The precautionary principle is defined in the Rio Declaration of 1992 as follows: "To protect the environment, states generally apply the precautionary approach according to their capabilities." When there is a risk of severe or permanent harm, a lack of complete scientific evidence cannot be used to justify delaying cost-effective steps to avoid environmental degradation. If more molecular epidemiological research is undertaken to more reliably define and measure the risks associated with the use of pesticides, due to the lack of scientific certainty, we may have to rely on the precautionary principle less often. The epidemiological approach to recognising and quantifying the health risk associated with pesticide uses are concerns that affect the supply of food, but they are not the only problems in addressing food protection in a comprehensible manner.



## RECOMMENDATIONS

- Pesticides are reused to reduce damage to crops from weeds, rodents, insects and germs. This increases the yield of fruits, vegetables and other crops. This article focuses on pesticide residues, or the pesticides found on the surface of fruits and vegetables when they are purchased as groceries.
- Consumers can further limit their intake of pesticide residues by peeling or washing fruit and vegetables, which also reduces other food borne hazards, such as harmful bacteria.
- Without pesticides, more than half of our crops would be lost to pests and diseases. Between 26 and 40 percent of the world's potential crop production is lost annually because of weeds, pests and diseases. Without crop protection, these losses could easily double.

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