



Pesticide Management In India

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This article is based on **“Pesticide Management Bill 2020 must address important concerns”** which was published in Down To Earth on 14/02/2020. It talks about pesticide management in India.

Agriculture in India is largely dependent on chemicals including pesticides and their usage has a huge impact on the health of humans, animals, biodiversity and the environment. In 2015, the National Crimes Records Bureau recorded 7,672 cases of poisoning due to accidental intake of insecticides/pesticides, out of which 7,060 died.

Pesticides are regulated in India through the **Insecticides Act, 1968 and Insecticides Rules, 1971**, the experiences in administering this Act over the last five decades has exposed certain gaps. In this context, the union cabinet has recently approved the **Pesticides Management Bill, 2020.**

Note:

The Insecticides Act, 1968 was brought with a view of regulating the import, manufacture, sale, transport, distribution and use of insecticides and pesticides in order to prevent risk to human beings and animals.

Use of insecticides and pesticides increased exponentially after the green revolution.

Pesticides Usage in India

- India is the fourth-largest producer of pesticides in the world. According to a report by database Research and Markets, the Indian pesticides market was worth Rs 197 billion in 2018.
- Pesticide market is further projected to reach a value of Rs 316 billion by 2024, growing at a Compound Annual Growth Rate of 8.1% during 2019-2024.
- The total as well as per hectare consumption of pesticides in India shows a significant increase after 2009-10.

- As the cost of manual weed control has risen due to an increase in agricultural wages, this is one of the reasons for the recent increase in pesticide use.

Issues Related to Pesticides in India

Pesticides pose a potential risk to humans and other life forms and unwanted side effects on the environment. No segment of the population is completely protected against exposure to pesticides and the potentially serious health effects.

- **Harmful Effects on Farmers:** Experts believe that chronic low-level pesticide exposure is associated with a broad range of nervous system symptoms such as headache, fatigue, dizziness, tension, anger, depression, and impaired memory, Parkinson's disease, and Alzheimer's disease, among others.
- **Harmful Effect on Consumers:** Pesticides go up the food chain by working their way through the environment and into the soil or the water systems after which they **are** eaten by aquatic animals or plants and ultimately humans. This process is called **Biomagnification**.

Note:

Biomagnification: The process by which a compound (such as a pollutant or pesticide) increases its concentration in the tissues of organisms as it travels up the food chain.

- **Harmful Effect on Agriculture:** Continued use of pesticides for decades has contributed significantly to the current ecological, economic and existential crisis of the Indian agriculture sector.
- **Regulatory Issues:** Although agriculture is a state subject producing, education and research are governed under the Insecticides Act, 1968 which is a central Act, and hence state governments have no direct role in amending it.
It is due to this that an estimated 104 pesticides that are still produced/ used in India, that have been banned in two or more countries in the world.

Note:

- Pesticides are chemicals that may be used to kill fungus, bacteria, insects, plant disease, etc., whereas an insecticide is used to specifically target and kill insects.
- **Other categories of chemicals used:**
 - Molluscicides control snails, slugs and similar molluscs.
 - Fungicides control fungi that are harmful to plants, preventing fungi spores from invading plant tissue.
 - Herbicides control weeds.
- There are 292 pesticides registered in India.

- Pesticides in India are registered with **Directorate of Plant Protection, Quarantine & Storage** which is an attached office under the **Ministry of Agriculture & Farmers Welfare**.

Why there is a need for amendment in the Insecticides Act, 1968?

Issues in the Insecticides Act, 1968:

- The larger pesticide companies generally outsource production to smaller manufacturers. It is at the outsourcing stage that the quality degradation occurs. However, the **Insecticides Act, 1968** only stipulates the prosecution of the manufacturers.
- Further, until now, only 23 products (pesticide) have been phased out on the grounds of safety, persistence, poor efficiency etc.
- Licensing Officer can arbitrarily stop the sale of a pesticide for 30 days. Such action is bound to increase an already corrupt practice.

Steps To Be Taken

- **The issues emanating from the Insecticides Act, 1968 are administrative in nature.** However, to ensure sustainable food production systems and to implement resilient agricultural practices (as envisaged **under target 2.4 of Sustainable Development Goal**), any legislation pertaining to pesticide management In India should incorporate the following provisions:
- **Focus on Minimal Use of Pesticides:** Pesticides should be treated as a temporary stop-gap arrangement wherein the aim should be to use it as a last resort.
- **Strict Regulation of Pesticides:** Necessary provisions should be made in the Bill to ban sale and use of Class I pesticides.
 - Based on acute toxicity, the World Health Organization classifies certain pesticides as extremely hazardous (Class Ia) and highly hazardous (Class Ib).
 - The Bill should incorporate a provision which makes it illegal to sell a pesticide by a pesticide company without personal protective equipment or safety gear.
 - Provision of systems and standard operating procedures for acute medical emergencies should also be made.
 - Registration-related provisions of a pesticide should clearly include a Need and Alternatives Assessment before a pesticide registration application is processed.

- **Developing a 'Code of Conduct' for Pesticide Companies:** Advertisements are by design suited to the commercial interest of the advertiser and aimed at influencing the buying behaviour of farmers, who are often uneducated and unaware of the marketing tactics.
 - Just like pharmaceutical drugs, pesticides due to their hazardous nature, must not be allowed to be promoted through advertisements. Thus, all kinds of advertisements for pesticides must be banned in India.
 - The **Polluter Pays' principle** should be the basis for fixing liability and compensation from the company. The Pesticide industry should be brought under a regulatory regime that makes it accountable for the entire product cycle including disposal.
 - In the event of a violation of regulation by a pesticide company, financial penalties should be proportional to the value of total sales of the concerned pesticide in India. A small financial penalty would not be big enough a deterrence for a big company selling pesticides worth crores of rupees.
- **Capacity Building of Farmers:** Over the counter, availability and dealer influence has caused severe overuses and misuses. Farmers must be made aware of judicious usage, pesticides must be sold and used cautiously under supervision like drugs. Like drugs, target, dosing, mode of application and unbiased advice for the usage of pesticide is critical.
- **Greater say to State Governments:** State governments should have the power to regulate pesticides as they have a better idea about the agro-ecological aspects of their state.
- **Green Alternatives:** Today, there are enough well-proven, successful alternative agro-ecological methods of pest management without using any chemical pesticide in India and globally.
 - Further, research and innovations must be made to phase out the usage of chemical pesticides completely as soon as possible.
 - Pesticide should be replaced with Biopesticides.
 - Apart from it, Government is promoting organic farming through various schemes/ programmes like Paramapragat Krishi Vikas Yojana (PKVY), **Rashtriya Krishi Vikas Yojana (RKVY) etc.**

Note:

Paramapragat Krishi Vikas Yojana (PKVY) aims to **increase the area under organic farming as it ensures higher income to farmers** due to comparatively lower cost of cultivation and premium price of organic.

Biopesticides are biologically based agents used for the control of plant pests. They can be living organisms (nematodes or micro-organisms) or naturally occurring substances, such as plant extracts or insect pheromones.

Drishti Mains Question

Pesticide management in India requires broad based reforms in order to ensure sustainable agricultural practices. Discuss.