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Analysis of Indian Legal Framework for Ensuring Pesticide Safe Food in India

SANJAY H. UTAGI[1] AND DR. PRASHANT S. DESAI[2]

ABSTRACT

Since the middle of the 20th century, pesticides have emerged as the most effective means of keeping pests away to increase agricultural production. Pesticides are increasingly used to preserve crops and agricultural output, but they have several dangerous side effects on the environment and human health. There is rampant use of 'banned pesticides' and 'excess amounts of pesticides' and 'unscientific use of pesticides' in India. Pesticide residues in Indian foods are tens of times higher than in other developed countries. These residues entering into human body are causing various health impacts. The issue of pesticide residue though being the most serious issue is being neglected due to lack of knowledge and awareness among the government officials and common public. Various laws made at the national and international levels have remained limited for the sake of paper works. The provisions made under food laws are not effectively enforced and implemented. This paper will critically analyse the pesticide safety laws of India for the protection of the human health from serious threats of pesticide residues. It highlights the lacunae in current food safety and pesticide control regulations. The on-going challenges in enforcing these laws, role played by the judiciary in implementation and enforcement of the existing legal framework will be analysed and the suggestions to protect the human health from pesticide hazards will be provided in this paper.

Keywords: *Pesticide Hazard, Residues in food, Food Safety.*

I. INTRODUCTION

The earth is burdened with the food demands of about 8 billion people, which will increase further in the coming years. Along with loss of nutrition and natural decay, attacks by pests such as rodents, insects, weeds and nematodes and diseases caused by pathogens reduce the quality and quantity of agricultural produce. Use of Pesticides is the easiest way for protection against these vermin. Thus the agriculture has become a major sector to use pesticides and around 90% of pesticide is consumed by the agricultural sector alone. Forestry, animal husbandry, poultry, aquaculture, food industry, processing, transportation and storage of

[1] Author is a Ph.D. Scholar at School of Law, M. S. Ramaiah University of Applied Sciences, Bengaluru, India.
[2] Author is Professor & Dean at School of Law, Dayananda Sagar University, Bengaluru, India.

 [ISSN 2581-5369]

wood etc are other sectors which account for remaining 10% of pesticide use. Pesticides have ensured good productivity and also good physical quality of the food. However, there also harms related to pesticides.

Pesticides cause one or more problems from the time they are manufactured until they are disposed. Issues related to health and safety of workers, shopkeepers, warehouses, distributors, retailers, farmers and agricultural employees are increasing day by day. Every citizen of the country is at risk due to pesticide residues in food and its environmental effects. Unscientific use of pesticides in Agriculture, food processing and food storage and unscientific disposal of pesticides lead to air and water pollution, soil depletion, food contamination, and various other types of pollutions. There is no doubt that the indiscriminate, excessive, and unscientific use of pesticides has an impact on everyone, including future generations.

Availability of food without insecticides and pesticides residues, veterinary drugs residues, antibiotic residues and other harmful substances is one of the essential consumer rights covered under the United Nations Guidelines on Consumer Protection adopted by United Nations in the year 1985. However, there are still many food articles such as milk, rice, meat, fish, vegetables, fruits containing harmful substances which can cause serious health hazards. Due to physiological immaturity of the children and greater exposure to soft drinks, they are uniquely susceptible to pesticides' effects[3], which need to be addressed.

II. BACKGROUND OF THE STUDY

Pesticides are found abundant in Indian food products. Pesticide residues in Indian agricultural products, including vegetables, fruits, spices and cereals have been shown to occasionally exceed regulatory bodies' permitted levels. The seven year long–term monitoring study involving analysis of 966 vegetable samples grown in the North and North–Western region of India revealed the highest percent detection of pesticides in green chilli (65.48%) followed by okra (39.04%), and cabbage (5.57%)[4]. These excessive pesticides are results of unscientific pesticide application during cultivation and post-harvest storage. A recent study conducted by the Hyderabad-based National Institute of Nutrition (NIN) found that Indians are consuming food with more pesticide residues. Compared to children in Europe, the United States, or Canada, Indian children consume 10 to 40 times more pesticides in their food.

[3] Sushila, *Legal Framework Regulating Food Safety: A Critical Appraisal*, 8 INTERNATIONAL JOURNAL ON CONSUMER LAW AND PRACTICE (IJCLP) 5, (2020), https://repository.nls.ac.in/cgi/viewcontent.cgi?article=1071&context=ijclp (last visited June 14, 2023).

[4] Krishan Kumar Sharma et al., *Long–term monitoring of 155 multi–class pesticide residues in Indian vegetables and their risk assessment for consumer safety*, 373 FOOD CHEMISTRY 131518, (2022), https://doi.org/10.1016/j.foodchem.2021.131518 (last visited June 14, 2023).

 [ISSN 2581-5369]

Widespread pesticide use is a major source of pollution — contaminating water, soil and air, driving biodiversity loss, and leading to pest resistance. Human exposure to chemical pesticides is linked to chronic illnesses such as cancer, and heart, respiratory and neurological diseases[5]. When the food with excess pesticide residue is consumed, it affects the human body in short term as well as long term. The high pesticide residue food can cause digestive disorder, food poisoning resulting in immediate death, breathing difficulty, miscarriage, defective birth, and in some cases even it can damage the human DNA.

Rampant use of pesticides is also causing contamination of soil, surface water and ground water. Nowadays mainly fruits and vegetables are laden with high amounts of pesticide residues because of cultivation in contaminated water or soil. The consumption of such vegetables and fruits that are grown in pesticide contaminated soil and water used for long-term, accumulation increase the concentration of toxins inside the body organs and causes chronic diseases such as neurotoxicity, cancer, necrosis, asthma, reproductive disorder, cardiac disease, diabetes, etc[6].

III. PESTICIDE REGULATION IN INDIA

The Insecticides Act of 1968[7] and the Environmental Protection Act of 1986[8] in India are the major laws that govern and restrict the use of pesticides in the nation. While the Food Safety and Standards Act of 2006 addresses pesticide-related food safety issues.

(A) Insecticides Act, 1968

As stated in its preamble, the Pesticides Act of 1968 aims to prevent danger to humans or animals by regulating the import, manufacture, sale, transportation, distribution, and use of pesticides within the territory of India**. The Central Insecticides Board established under Section 4 of the Act** advises the Central Government in matters relating to 'risk to humans or animals involved in the use of pesticides and safety measures necessary to prevent such risk' and 'manufacture, sale, storage, transportation, and distribution of pesticides to ensure safety to humans or animals'. **The Central Insecticides Board constitutes of experts from different field.**

[5] HOW PESTICIDES IMPACT HUMAN HEALTH AND ECOSYSTEMS IN EUROPE, REPORT, (Publications Office of the European Union), https://www.europeansources.info/record/how-pesticides-impact-human-health-and-ecosystems-in-europe/ (last visited June 16, 2023).
[6] Valeriya P. Kalyabina et al., *Pesticides: formulants, distribution pathways and effects on human health – a review*, 8 TOXICOLOGY REPORTS 1179, (2021), https://doi.org/10.1016/j.toxrep.2021.06.004 (last visited June 24, 2023).
[7] The Insecticides Act, 1968 (India) (Act No. 46 Of 1968).
[8] The Environmental Protection Act, 1986, (India) (Act No.29 Of 1986)

 [ISSN 2581-5369]

Further, any pesticide prior to being produced, imported, or marketed in India, is required to be registered in accordance with the provisions of the Insecticides Act, 1968 with the Central Insecticide Registration Committee (CIBRC) established under Section 5 of the Act. The CIBRC evaluates the safety and efficacy of insecticides and determines the conditions under which they may be used. After carefully examining their formulae and confirming the efficacy and safety claims provided by the importer or manufacturer for both people and animals, the Registration Committee registers pesticides. The Insecticides Rules, 1971 set out the standards for labelling and packaging of insecticides, and require that warnings and safety information be included on the label of all insecticides sold in India.

Though the Section 9 of the Act provides for Registration of Insecticides, the Act does not clearly provide for a mechanism to challenge the registrations granted. Procedure for Prohibition of pesticides under section 27 is time consuming. A pesticide can be introduced for usage in the country subject to the approval of the Registration Committee. When the committee is satisfied with the molecule's effectiveness and safety, it registers the molecule under Section 9 of the Pesticides Act. The industry is expected to submit this data; however there have been allegations that some companies register molecules even when they don't pass certain criteria. Practically no actions are being taken under section 29 for indiscriminate pesticide use. Pesticides treated as new molecules without undergoing any parameter of quality test, its harmful effect, damage and consequence on living beings are permitted and have not to even undergo any of the rigours test. Also the provisions shall be made for automatic ban of pesticides which have been banned in the jurisdictions of other countries or under International conventions.

(B) Environmental Protection Act, 1986.

The Environmental Protection Act, 1986[9] includes a number of regulations intended to regulate and stop the discharge of dangerous chemicals including the pesticides into the environment. Section 7 of EPA provides protection against waste discharge by the industries. As per section 7, no one shall, engaged in any industry, activity, or process may release, release, or authorise release of any environmental pollutant in excess of any set requirements. Further, persons dealing with pesticides are subjected to various responsibilities under Section 9 of the Environmental Protection Act of 1986, including giving information to the relevant authorities and agencies and offering help in certain circumstances. Violation of the provisions of the Act is punishable under Section 15 with imprisonment for a term which may extend to five years,

[9] The Environmental Protection Act, 1986, (India) (Act No.29 Of 1986)

 [ISSN 2581-5369]

with fine which may extend to one lakh rupees or with both.

The Act lacks enforcement even if it appears to contain sufficient measures for environmental protection on paper. Rarely are actions initiated under Section 15 of the Environment Protection Act of 1986. Impact assessments are not being done correctly and periodically, and there is no data suggesting efficient government-level field investigation to check for residues in the soil, the air, or the ground water. Even in the PepsiCo case, testing on PepsiCo soft drinks were undertaken by the Centre for Science and Environment, a Delhi-based environmental organisation.

(C) The Pesticide Management Bill, 2020

The Pesticides Management Bill of 2020, which aims to replace existing pesticide legislation, has provisions that are comparable to those of the 1968 Act. Whereas there is no such provision in the Pesticides Act of 1968, the Bill expressly provides that the safety and efficacy of licenced pesticides shall be periodically assessed by a registered committee. MRL residues under FSSAI are also taken into account by the Registration Committee while awarding registration. The Registration Committee will not approve registration for a pesticide if the certificate does not include MRLs for that pesticide under FSSAI.

However, the Pesticide Management Bill, 2020 is frequently criticised for having several measures that go against the interests of different industrial parties. Legislation should provide environmental and public health protection rather than creating a source of contention between the government and the pesticide industry. When this becomes legislation, it will be obvious how it will support environmental and public health protection.

(D) Food Safety and Standards Act of 2006

The Food Safety and Standards Act of 2006 (FSSA)[10] is one of the main bits of regulation in India that manages the quality and wellbeing of food items, especially those that incorporate pesticides. As the preamble itself suggests, the Food Safety and Standards Act of 2006 is "An Act to consolidate the laws relating to food and to establish the Food Safety and Standards Authority of India for laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import, to ensure availability of safe and wholesome food for human consumption and for matters connected therewith or incidental thereto"[11].

The Act defines food containing 'pesticides in excess of quantities' than specified under its

[10] Food Safety And Standards Act, 2006 (India) (Act No. 34 Of 2006).
[11] Preamble, Food Safety And Standards Act, 2006 (India) (Act No. 34 Of 2006).

 [ISSN 2581-5369]

regulations as unsafe food in Section 3. The FSSAI has established a scientific panel on pesticide residues as an independent scientific body in accordance with Section 13. Scientific panel on pesticide residues advises maximum residue levels (MRLs) of pesticides on targeted crops based on safety and risk evaluation of the data submitted by manufacturers to the Central Insecticides Board and Registration Committee.

Additionally, Food Safety Officers designated in accordance with Section 37 of the Act are in charge of the-ground-level enforcement of the provisions of the Act. Food safety officers are responsible for gathering food samples, seizing food items that appear to them to be in violation of this Act or the regulations made thereunder, sending food samples to a local food analyst for analysis, entering and inspecting any premises, and taking samples of such food items for analysis.

Though the Act aims for ensuring pesticide safe food, the operation of the Act is dependent on the other legislations such i.e. the Insecticides Act, 1968 and the Environmental Protection Act, 1986. The Food Safety and Standards Act doesn't have power to ban use of any pesticide. When the use of banned hazardous pesticide is allowed in the country, the Food Safety and Standards Act remains as a toothless tiger. The Act fails to deal with the issues such as lack of awareness among farmers since it doesn't come under the purview of FSS Act. Further there are implementation and enforcement challenges due to lack of manpower and equipment.

IV. JUDICIAL PRONOUNCEMENTS ON PESTICIDE RESIDUES IN FOOD

In *Dr. Ashok v. Union of India*[12], the Hon'ble Supreme Court in Dr. Ashok's letter to the Chief Justice of India considered it a petition under Article 32 of the Constitution. The letter had highlighted several pesticides and dyes that were banned in many developed countries as they were found to be carcinogenic, but those chemicals were still widely used in India. The Hon'ble Supreme Court ruled that using hazardous materials puts living beings health and safety at risk. Although their use against infectious diseases is appropriate, it is not justifiable when the manufacturer endangers public health, which always gets priority over economic interests such as generating revenue.

In *Democratic Youth Federation Of India V.Union of India*[13] hearing a writ petition filed by the DYFI (Democratic Youth Federation of India), the Hon'ble Supreme Court of India banned the manufacture and sale of the pesticide 'endosulfan' in the country. It ordered the statutory authorities to revoke the producers' manufacturing licences. Further, The Kerala government

[12] Dr. Ashok v. Union of India, (1997) 5 SCC 10 (Supreme Court of India)
[13] Democratic Youth Federation of India v.Union Of India, (2011) 15 SCC 528 (Supreme Court of India)

 [ISSN 2581-5369]

was ordered by the Hon'ble Supreme Court to examine the viability of offering medical facilities or treatment for lifelong health issues brought on by endosulfan's impacts, which affected thousands of people.

In *Vanashakti & Other Vs Union of India & Others*[14] the petitions filed by NGO Vanasakti and others have sought a ban on harmful pesticides in India as they cause health problems. Through the request of outlawing of 99 toxic pesticides that are currently being used in India but have been outlawed by other nations, the present petition aims to uphold the right to health of farmers, farm workers, and consumers. In particular, Punjab, Kerala, and Maharashtra are mentioned as places where pesticide usage has produced serious environmental and health problems. The petition claims research between farmers' usage of pesticides and their propensity for suicide. The petition highlights some of the linked health hazards of pesticides use including cancer, DNA damage, harm to the brain and neurological system, Parkinson's disease, birth abnormalities, immunological alterations, and negative effects on the physical and mental development of children in farmers, agricultural workers, and their families.

The Hon'ble High Court of Delhi in the matter of *'Court on its Motion Vs Ministry of Agriculture'*[15] dated 23/02/2012 regarding pesticide residues in vegetables in National Capital Territory directed that the quantity of produce to be tested, the frequency of inspection, and the transparency of the information flow to the public all be increased. To this end, the necessary data resulting from such inspection shall be uploaded to the website. Because it is publicised in newspapers, the general public is aware of what and where they are purchasing. The Delhi High Court also ordered the relevant authorities to convene a joint meeting and provide a plan of action before the court. Further it was directed to establish a committee for this purpose.

V. CONCLUSION

The Insecticides Act, 1968, The Environmental Protection Act, 1986 and Food Safety and Standards Act, 2006 are major legislations to ensure pesticide safe food in India. The Insecticides Act, 1968 regulates the import, manufacture, sale, transportation, distribution, and use of pesticides within the territory of India. But, the Act does not clearly provide for a mechanism to challenge the registrations granted. Procedure for Prohibition of pesticides under section 27 is time consuming. Under The Environmental Protection Act, 1986, actions are rarely taken agaisnt rampant and excessive use of pesticides. Food Safety and Standards Act, 2006 which prescribes Maximum Residue Levels of pesticides in food, lacks proper enforcement

[14] Vanashakti & Other V. Union of India & Others , WP(C) No. 237/2017 (Supreme Court of India)
[15] Court on its Motion v. Ministry of Agriculture, WP(C) No.7495/2010 (High Court of Delhi)

 [ISSN 2581-5369]

because of lack of man power and equipment. In, India every time judiciary has to interfere to ban hazardous pesticides or to issue directions for conducting periodical enforcement drives. Even endosulfan was banned after Hon'ble Supreme Court's Judgement. Provisions shall be made under Insecticides Act, 1968 to provide a simplified mechanism to challenge the registrations of pesticides. Registration of pesticides which are banned under laws of foreign countries for the reason of health impacts shall be instantly banned or registration of such pesticides shall be instantly withheld. Fixed periodical enforcement drives shall be carried out under all the three laws and results shall be kept updating on a website. The efficient implementation work under all the three laws and harmonisation of Indian Laws with the laws of foreign countries is very much essential to ensure the citizens their right to health.

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 [ISSN 2581-5369]