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"Pesticide Use Patterns And Peasants' Perceptions: A Case Study From Bilaspur, Chhattisgarh"

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Abstract:

The pesticide market size in India is estimated to be ₹229.4 billion in 2022, and it is expected to reach ₹342.3 billion by 2028, with a projected Compounded Annual Growth Rate (CAGR) of 4.6% to 4.08%. Therefore, pesticides have become essential for farming (FAO, 2020).

There are 293 pesticides registered in India, of which 104 are produced in the country itself. India is the fourth largest pesticide producer in the world. To promote sustainable agriculture in India and ensure food security for India's growing population, it is essential to protect crops from pests. Pesticides play a vital role in modern agriculture, but lack of awareness and misuse pose serious threats to both the environment and human health. India, with the world's largest population, is a high producer and consumer of pesticides. Overuse, lack of awareness, and unsafe handling practices are prevalent among both educated and uneducated farmers in India. This study, conducted in Bilaspur district of Chhattisgarh, examines pesticide use patterns and farmers' perceptions, focusing on health and environmental concerns.

Primary data were collected from 100 farmers in three villages of Bilaspur (Birkona, Lokhandi, and Turkadih) using a structured and pre-tested questionnaire. By combining insights from the literature with field-based observations that collected information on farmers' demographic characteristics, awareness of pesticide laws and regulations, handling and storage practices, and knowledge of

potential hazards, the study aims to contribute to a better understanding of pesticide practices in developing regions and underline the importance of awareness, training, and policy interventions to promote safe and sustainable pesticide use.

Keywords: Pesticide, Practice, Farmer, Health, Environment, Awareness

Introduction

Pesticides prevent yield losses and their use is necessary to feed the 9 billion population by 2050. (Ali et al, 2020) The basis of India's employment economy is agriculture, which provides employment to about 70% of India's population (Yadav and Dutta, 2019). In modern times, developing countries are adopting new technologies as a necessary part of feeding their population (Ocho et al, 2016). Industrialization has brought about a vast change in agriculture. Farmers have started using large quantities of chemicals for fertilizers, pesticides, micronutrients in large quantities (Yadav.et al, 2019). Pesticides protect crops by killing pests leading to higher production (Damalas, 2009; Damalas and Eleftherios, 2011).To meet the increasing food needs, high quantities of pesticides are being used to increase yield (Carvalho, 2006).Some of the common reasons for the lack of awareness about pesticides in most developing countries are: illegal use of banned pesticides (Van Hoye et al., 2009), indiscriminate spraying of pesticides (Groverman et al., 2013), failure to use safety equipment (Stadlinger et al., 2011), improper storage (Ibitayo, 2006), misuse of pesticide canisters (using them to store food or drinking water) (Karunamurthy et al., 2012; Tijani, 2006).In Asia, 60% of deaths from crucial diseases are caused by pesticide poisoning (Joseph et al., 2003). In India, 90% of pesticides are used mainly on three crops: rice, cotton and vegetables (Govindharaj et al.,2020).After spraying chemical pesticides on the fields, these chemical pesticides remain in soil and groundwater for a long time and have a serious effect on humans, animals as well as the environment (Yadav and Dutta, 2019).Balanced use of chemical pesticides can help save the environment (Veetti,et al, 2016).Safety behaviour can be enhanced by making retailers and farmers aware about safe pesticide handling training and awareness through various means of publicity. (Bhandari.et al, 2018).

Pesticides classification on the basis of its toxicity

WHO Class		LD_{50} for rats (mg/kg of body weight)	
		Oral	**Dermal**
Class-I_a	Extremely Hazardous	Less than 5	Less than 5
Class-I_b	Highly Hazardous	5 to 50	5 to 200
Class-II	Moderately Hazardous	50 to 2000	200 to 2000
Class-III	Slightly Hazardous	Over 2000	Over 2000
Class-V	Unlikely to present acute hazard	5000 or higher	

According to WHO, 2009

Pesticides based on different targets of pests:	
Fungicides	Fungi
Insecticides	Insects
Herbicides	Plants
Rodenticides	Rodents (rats and mice)
According to FAO, 2020	

Only 1% of the pesticides used have an effect on the target organisms and the remaining amount of pesticides causes adverse effects on non-target organisms and pollutes the environment by getting into soil, water and air (Harsimran and Garg, 2014;Meghdadi and Mirza-Mohammad, 2016).Pesticides can be harmful to farmers if not disposed of properly (Aldosari et al., 2018; Hou and Wu,2010).Pesticide residues in empty containers and other pesticide use containers are toxic (Huici et al., 2017).In developing countries, due to poor enforcement of legislation, pesticides pollute water resources as well as the environment as a whole (Thuy et al., 2012; Prashar et al, 2015).Farmers do not follow safety rules while spraying pesticides nor handle hazardous waste (Bagheri et al.,2019a; Bagheri et al., 2019b; Bondori et al., 2019; Huici et al., 2017). In this study, we studied the relationship between farmers' agricultural practices, pesticide consumption and level of knowledge.

Methodology

This research work has been done in three villages "Birkona, Lokhandi and Turkadih" of Bilaspur district of Chhattisgarh state of India. The aim of this research work is to understand the pesticide use habits of farmers and their impact on health and environment. In this study, questionnaire-based survey has been used for primary data collection in which data has been taken from 100 farmers. Primary data collected from that farmer with the help of pre-testing interview schedule. The survey covered demographic characteristic of farmers, pesticides use practices and use of PPE and symptoms experienced within the last one year. A questionnaire was designed to include closed and open ended. The questionnaire contained three main sections. The first section was designed to collect information on personal characteristics of the farmers including age, educational level and years of farming experience. The section focused on collecting information on farmers level of awareness of pesticide laws and regulation and knowledge and understanding of pesticides with respect to the environmental and human health. The third section included questions regarding pesticide handling and safety practices. All data were coded, entered, and then analysed using SPSS version and Microsoft office excel. Descriptive results were expressed as frequency and percentage.

Sample:

This research was conducted in three villages- Birkona, Lokhandi and Turkadih , located in the Bilaspur district of Chhattisgarh, India. A questionnaire-based survey was used to collect primary data from a total of 100 farmers who were selected using purposive sampling. The questionnaire was pre-tested and structured to collect both quantitative and qualitative data.

Materials used:

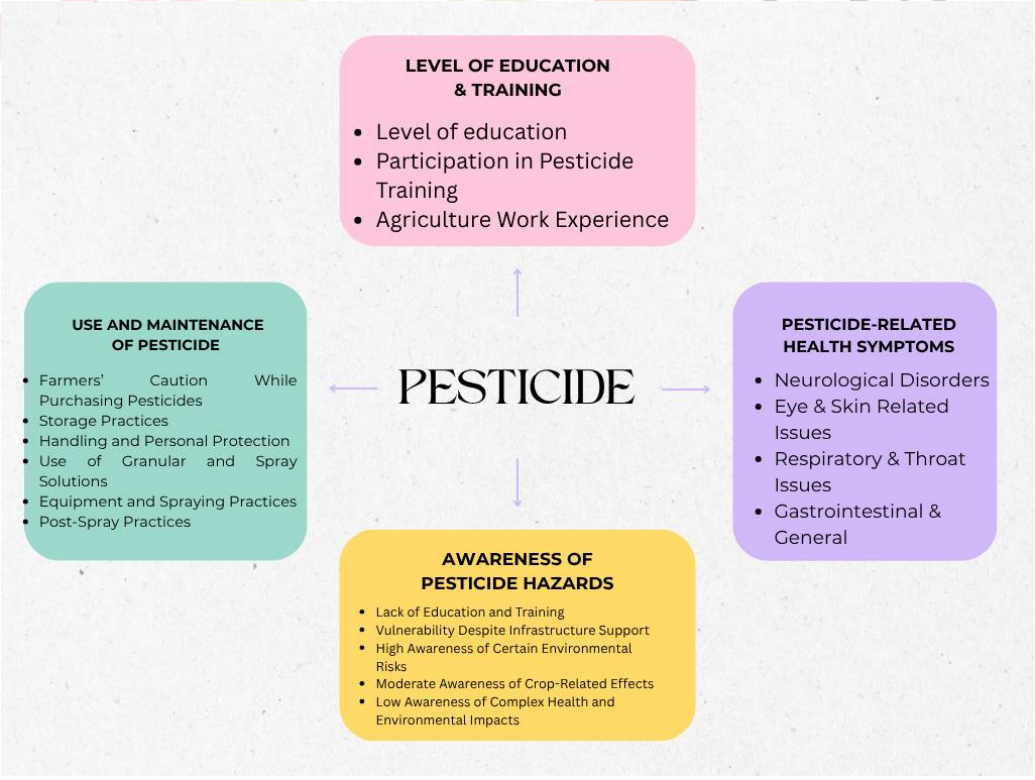
- Type of Tool: A structured and pre-tested questionnaire (interview schedule).
- Questionnaire Format: It included both closed-ended and open-ended questions.

Procedure:

- Software Used: SPSS (Statistical Package for the Social Sciences) and Microsoft Excel
- Data Coding and Entry: All responses were coded systematically before analysis.

Results:

The study conducted from June to July 2024 in three villages of Chhattisgarh- Birkona, Lokhandi, and Turkadih- sought to evaluate farmers' knowledge and practices related to pesticide usage, with particular attention to environmental and human health hazards. The sample consisted of 100 farmers, and data were collected using a structured questionnaire comprising both closed and open-ended questions.



❖ **Level of education & training:**

1. Level of education: 6% could only sign and 3% could only read and write. A very small portion were graduates (5%) or postgraduates (1%) and 61% had only up to primary or middle-level education.

2. Participation in Pesticide Training: None (0%) of the farmers had attended any pesticide-related training. This indicates a complete lack of formal training, potentially contributing to unsafe pesticide handling.

3. Agriculture Work Experience: Majority (54%) of farmers were in the 36–55 age group which are enough experience of agriculture work. The largest single group (29%) were aged 46–55 years, suggesting that middle-aged individuals dominate farming activities and Only 8% were younger than 9%, reflecting low youth participation in agriculture.

Use and maintenance of pesticide:

1. **Farmers' Caution While Purchasing Pesticides:** The results indicate a lack of awareness and negligence among farmers regarding safe purchasing practices. Only 27% of farmers purchased pesticides from licensed dealers. None of the farmers checked the batch number, expiry date, or read the approved label, and 100% failed to buy pesticides in required small quantities or check packaging. This suggests an alarming lack of basic precautionary practices at the purchasing stage, potentially increasing risks of counterfeit, expired, or misused pesticides.

2. **Storage Practices:** 55% of farmers stored pesticides away from their house premises, showing a fair level of awareness. A high 93% kept pesticides out of children's reach, and 100% protected them from sunlight and rain. However, none separated pesticides from herbicides or marked storage areas with warning signs.This highlights a need for improvement in distinguishing storage and labeling practices to prevent accidental exposure or contamination.

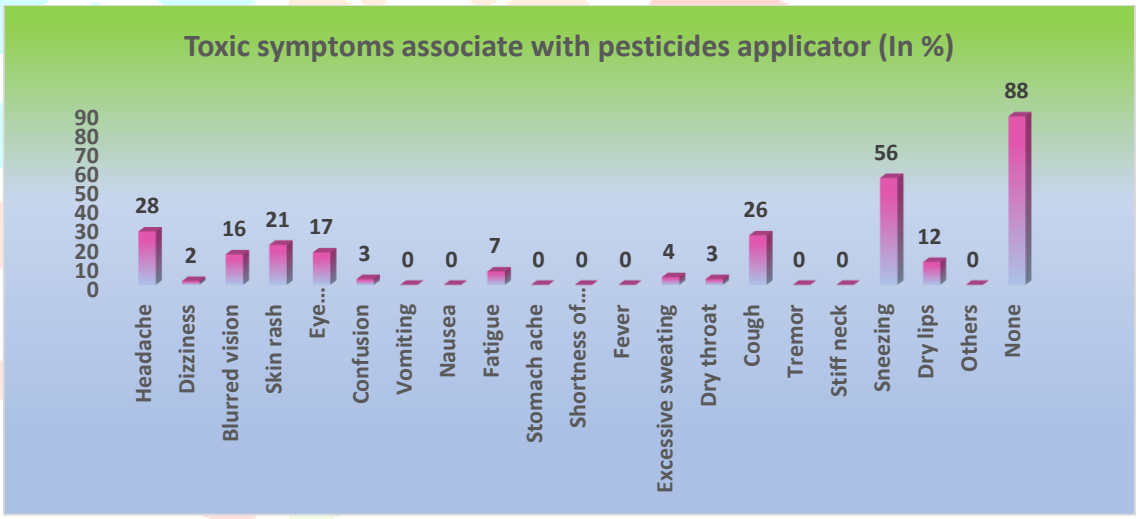
3. **Handling and Personal Protection:** Handling practices revealed a serious gap in personal safety. Only 49% separated pesticides during transport. All 100% used clean water for spray preparation. Just 37% wore full protective clothing, and none protected sensitive body parts like eyes, ears, or nose from exposure. Alarmingly, none read label instructions or prepared pesticide solutions as per requirement. This indicates that although farmers follow some hygiene (clean water use), use of PPE and proper handling remains critically low, posing a major health risk.

4. **Use of Granular and Spray Solutions:** None avoided spillage or used only recommended quantities.90% admitted indulging in activities that may affect their health, like smoking, eating, or resting in the field post-spray. The lack of care during mixing and application exposes farmers to direct pesticide toxicity risks.

5. **Equipment and Spraying Practices:** Only 46% selected the right type of spraying equipment. None used separate sprayers for herbicides/insecticides or chose appropriate nozzle sizes.84% sprayed in the direction of wind, which can increase pesticide drift and exposure. Encouragingly, 100% cleaned their equipment after use and restricted field entry post-spray. While sanitation and restricted access practices are well-followed, technical knowledge of equipment and wind-based application safety is absent.

6. **Post-Spray Practices:** 78% disposed of leftover solution safely, though 22% did not, raising environmental concerns.100% washed hands and face before eating, and 65% safely crushed and buried used containers. This shows a good level of hygiene post-application, but disposal of containers needs stricter control.

❖ **Pesticide-Related Health Symptoms**: Out of total 100 farmers surveyed, 88% did not use pesticides properly, yet they did not experience any toxic symptoms although 12% experienced some health problems.



The **most commonly reported symptoms** among those affected were:

1. Sneezing (56%)
2. Headache (28%)
3. Cough (26%)
4. Skin rash (21%)
5. Eye irritation or burning sensation (17%)
6. Blurred vision (16%)
7. Dry lips (12%)
8. Fatigue (7%)
9. Excessive sweating (4%)

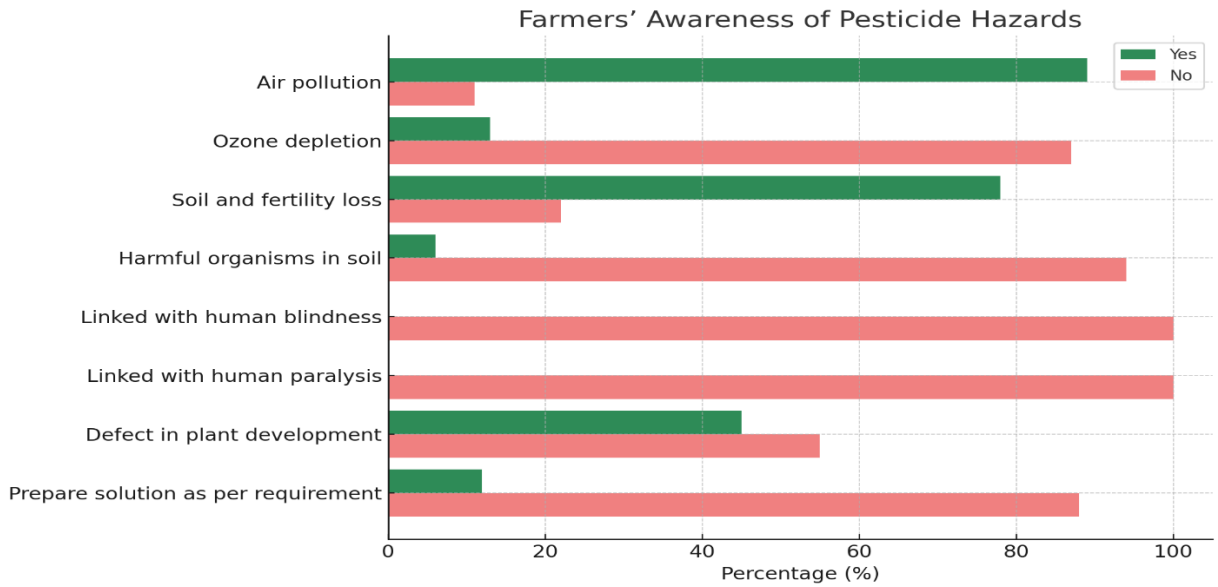
10. Confusion and dry throat (3% each)

11. Dizziness (2%)

Serious symptoms such as vomiting, nausea, abdominal pain, shortness of breath, fever, tremors, stiff neck and "all of the above" were not reported by any farmer (0%). This either reflects low toxicity exposure or lack of awareness to identify symptoms. Sneezing (56%) was the most common symptom, which may indicate an allergic or respiratory reaction to pesticides. Neurological symptoms such as headache (28%), blurred vision (16%) and confusion (3%) were also reported. Skin rashes (21%) and eye irritation (17%) indicate skin and mucous membrane contact. 88% of farmers did not report any symptoms, indicating limited awareness or ignorance of mild symptoms. No one selected "all of the above".

❖ **Awareness of Pesticide Hazards:** Alarmingly, 100% reported no awareness of the hazard levels of pesticides. This shows their low level of awareness and exposure. This significant knowledge gap may lead to unsafe exposure, environmental harm, and health risks. there is a major gap in pesticide safety education and awareness.

1. The low education levels, lack of training, and absence of hazard awareness are critical areas of concern.
2. This combination suggests that despite some infrastructure support (like tractors and pumps), farmers are highly vulnerable to pesticide misuse and related health/environmental consequences.
3. High Awareness was observed for issues like air pollution (89%) and soil fertility loss (78%), indicating that a significant proportion of farmers recognize certain environmental risks associated with pesticide use.
4. Moderate Awareness was seen in relation to defective plant development, where 45% of respondents acknowledged this impact. This suggests a partial understanding of how excessive or inappropriate pesticide use may affect crop health.
5. Low Awareness was particularly evident for more complex or indirect health and environmental issues. Only 13% of farmers recognized the role of pesticides in ozone layer depletion. A mere 6% were aware of the presence of harmful organisms in the soil due to pesticide use. Critically, none of the farmers linked pesticide use to serious human health effects such as blindness or paralysis. Only 12% of respondents reported preparing pesticide solutions based on actual requirement, which indicates a lack of knowledge in dosage management and potentially contributes to overuse or misuse.



Discussion

The survey was conducted from June to July 2024 in three villages - Birkona, Lokhandi and Turkadih in Bilaspur district of Chhattisgarh state. The study tried to assess the knowledge and practices of farmers related to pesticide use, with special attention to environmental and human health hazards. The survey focused on farmers' awareness about precautionary aspects of pesticide use, especially environmental pollution and health effects. The study tried to assess the knowledge and practices of farmers related to pesticide use, with special attention to environmental and human health hazards. The relatively low percentage of self-reported pesticide-related symptoms does not necessarily indicate safe practices.

1. This data reinforces the need for awareness programmes focused on health risks associated with pesticide use, safe handling practices and early identification of symptoms of exposure.

2. Emphasis is on the need for better farmer education to recognise early warning signs of poisoning.

3. Farmers practice basic hygiene and some post-spray precautions, but there is widespread lack of awareness and implementation of these.

4. The survey reflects the level of knowledge of farmers about pesticides. They know not to purchase pesticides from unlicensed persons. They purchase pesticides without looking at the approved label on the pesticide container. Farmers do not purchase expired and unsealed pesticide containers.

5. 77% of farmers keep pesticide containers out of reach of children. They do not allow pesticides to come in contact with sunlight and rain water.

6. Farmers generally do not store pesticides with food and fodder and do not carry heavy quantities on shoulders, back or head. 88% of farmers wear PPE during pesticide application while none of them use pesticides as per the instructions given on the container label.

7. 73% of pesticide users do not eat, drink, smoke and chew while spraying pesticides. All farmers spray pesticides in the morning or afternoon. Farmers spray pesticides along and against the wind direction. They do not reuse containers and buckets for mixing pesticides for household purposes even after thoroughly washing them. All farmers enter the treated field without wearing protective clothing after spraying pesticides.

8. 29% of farmers eat, drink and smoke before bathing and washing clothes while half of the farmers have no knowledge about this. All respondents strongly agreed that one should not take risks by not reporting symptoms of poisoning to the doctor as it may endanger the life of the patient.

9. 29% of farmers eat, drink and smoke before bathing and washing clothes while half of the farmers have no knowledge about this. All respondents strongly agreed that one should not take risks by not reporting symptoms of poisoning to the doctor as it may endanger the life of the patient. 9. High awareness was observed for issues such as air pollution (89%) and soil fertility loss (78%), indicating that a significant proportion of farmers recognise some of the environmental risks associated with pesticide use.

10. Moderate awareness was observed with regard to defective plant growth, where 45% of respondents acknowledged this impact. This suggests that there is only a partial understanding of how excessive or inappropriate pesticide use can affect crop health.

- Low awareness was particularly evident for more complex or indirect health and environmental issues.
- Only 13% of farmers recognised the role of pesticides in ozone layer depletion.
- Only 6% were aware of the presence of harmful organisms in the soil due to pesticide use.
- Critically, no farmer linked pesticide use to serious human health impacts such as blindness or paralysis.
- Only 12% of respondents reported preparing pesticide solutions based on actual requirement, which reflects a lack of knowledge in dosage management and potentially contributes to overuse or misuse.

Suggestion

- Farmers will have to be made aware about the environment and water resources will have to be managed properly.
- We have to promote education in the villages so that by getting higher education people can understand other problems and situations related to agriculture.
- The government should keep training farmers from time to time according to the demand of the situation.
- Farmers need to be empowered to identify problems caused by pesticides at a better level.
- While farmers show reasonable awareness of visible and immediate impacts such as air and soil pollution, they are largely unaware of invisible or delayed consequences such as ozone depletion or

chronic health problems. Such gaps highlight the need for targeted educational programmes and awareness campaigns to bridge the knowledge gap.

- Government extension services and NGOs should focus on promoting safe pesticide handling and correct dosing practices
- Disseminating information about invisible exposure routes
- Explaining the health effects of long-term pesticide exposure. Although most farmers reported no pesticide-related symptoms, the occurrence of various mild to moderate symptoms among others indicates continued exposure risks.
- Farmers should be trained to recognize these symptoms and provided access to protective equipment and safe handling guidelines.
- Future studies may include medical examinations to validate self-reported data and reduce bias from underreporting or misinterpretation.
- Capacity building programs focusing on pesticide safety are urgently needed.
- Government and NGOs should conduct awareness campaigns on safe use of pesticides.
- Incorporating label literacy training and awareness of risk characteristics can significantly reduce health risks.

Reference

1. Aldosari, F., Mubushar,M., Baig, M., 2018. Assessment of farmers' knowledge on pesticide
2. and training on pesticide waste management in central Punjab-Pakistan. J. Exp. Biol. Agric. Sci. 6, 168–175.
3. Ali, M. P., Kabir, M. M. M., Haque, S. S., Qin, X., Nasrin, S., Landis, D., Holmquist, B., & Ahmed, N. (2020). Farmer's behavior in pesticide use: Insights study from smallholder and intensive agricultural farms in Bangladesh. Science of the Total Environment, 747. https://doi.org/10.1016/j.scitotenv.2020.141160
4. Bhandari, G., Atreya, K., Yang, X., Fan, L., & Geissen, V. (2018). Factors affecting pesticide safety behaviour: The perceptions of Nepalese farmers and retailers. Science of the Total Environment, 631–632, 1560–1571. https://doi.org/10.1016/j.scitotenv.2018.03.144
5. Bagheri, A., Bondori, A., Allahyari, M.S., Damalas, C.A., 2019b. Modeling farmers' intention to use pesticides: an expanded version of the theory of planned behavior. J. Environ. Manag. 248, 109291
6. Bondori, A., Bagheri, A., Allahyari, M.S., Damalas, C.A., 2019. Pesticide waste disposal among farmers of Moghan region of Iran: current trends and determinants of behavior. Environ. Monit. Assess. 191, 30.
7. Carvalho F. P., 2006. Agriculture, pesticides, food security and food safety. Environmental Science & Policy, 9**,** 685-692.
8. Damalas, C.A., 2009. Understanding benefits and risks of pesticide use. Sci. Res. Essays 4,

9. 945–949.

10. Damalas, C.A., Eleftherohorinos, I.G., 2011. Pesticide exposure, safety issues, and risk assessment indicators. Int. J. Environ. Res. Public Health 8, 1402–1419.

11. FAO, 2020. Pesticide use data. Available online at: http://www.fao.org/faostat/en/#data/RP (Accessed on 25th February, 2020).

12. **Food and Agriculture Organization of the United Nations (FAO).** (2020). International Code of Conduct on Pesticide Management – Guidelines on Pesticide Legislation. Rome: FAO. Available at: https://www.fao.org/pesticide-management
13. Grovermann, C., Schreinemachers, P., Berger, T., 2013. Quantifying pesticide overuse from
14. farmer and societal points of view: an application to Thailand. Crop. Prot. 53,161–168.

15. Govindharaj, G. P. P., Gowda, B., Sendhil, R., Adak, T., Raghu, S., Patil, N., Mahendiran, A., Rath, P. C., Kumar, G. A. K., & Damalas, C. A. (2021). Determinants of rice farmers' intention to use pesticides in eastern India: Application of an extended version of the planned behavior theory. Sustainable Production and Consumption, 26, 814–823. https://doi.org/10.1016/j.spc.2020.12.036

16. Harsimran, K.J., Garg, H., 2014. Pesticides: Environmental Impacts and Management Strategies.
17. Retrieved online at. https://www.intechopen.com/books/pesticides-toxic-aspects/
18. pesticides-environmental-impacts-and-management-strategies.

19. Hou, B., Wu, L., 2010. Safety impact and farmer awareness of pesticide residues. Food
20. Agric. Immunol. 21, 191–200.

21. Huici, O., Skovgaard, M., Condarco, G., Jørs, E., Jensen, O.C., 2017. Management of empty
22. pesticide containers—a study of practices in Santa Cruz, Bolivia. Environmental Health Insights 11, 1–7.

23. Ibitayo, O.O., 2006. Egyptian farmers' attitudes and behaviors regarding agricultural
24. pesticides: implications for pesticide risk communication. Risk Anal. 26, 989–995.
25. Joseph A., Abraham S., Muliyil J.P., , George K., Prasad J., Minz S., Abraham V. J. and Jacob, K. S. 2003. Evaluation of suicide rates in rural India using verbal autopsies. BMJ, 24**,** 1121-1122.

26. Karunamoorthi, K., Mohammed,M.,Wassie, F., 2012. Knowledge and practices of farmers
27. with reference to pesticide management: implications on human health. Arch.
28. Environ. Occup. Health 67, 109–116.

29. Meghdadi,M.M., Mirza-Mohammad,M., 2016. Civil liability for entry, manufacturing, formulation and consumption of fertilizers and pesticides by reviewing Australian regulations.
30. Comparative Law 13, 67–90 (in Persian).

31. Ocho, F. L., Abdissa, F. M., Yadessa, G. B., & Bekele, A. E. (2016). Smallholder farmers' knowledge, perception and practice in pesticide use in South Western Ethiopia. Journal of Agriculture and Environment for International Development, 110(2), 307–323. https://doi.org/10.12895/jaeid.20162.484

32. Prashar P., Tyagi H. and Gautam T. (2015). Survey of pesticide use patterns and farmers perceptions: A case study from cauliflower and tomato cultivating areas of district Faridabad, Haryana, India.
33. International Journal of MediPharm Research, 1(3):139-146.

34. Stadlinger, N., Mmochi, A.J., Dobo, S., 2011. Pesticide use among smallholder rice farmers
35. in Tanzania. Environ. Dev. Sustain. 13, 641–656.

36. Thuy, P.T., Van Geluwe, S., Nguyen, V.-A., Van der Bruggen, B., 2012. Current pesticide practices and environmental issues in Vietnam: management challenges for sustainable use of pesticides for tropical crops in (South-East) Asia to avoid environmental pollution. J. Mater. Cycl. Waste Manag. 14, 379–387.

37. Tijani, A.A., 2006. Pesticide use practices and safety issues: the case of cocoa farmers in
38. Ondo State, Nigeria. J. Hum. Ecol. 19, 183–190.

39. Veettil, P. C., Krishna, V. v., & Qaim, M. (2017). Ecosystem impacts of pesticide reductions through Bt cotton adoption. Australian Journal of Agricultural and Resource Economics, 61(1), 115–134. https://doi.org/10.1111/1467-8489.12171

40. Van Hoi, P., Mol, A.P.J., Oosterveer, P., van den Brink, P.J., 2009. Pesticide distribution and use in vegetable production in the Red River Delta of Vietnam. Renewable Agric. Food
41. Syst. 24, 174–185.

42. **World Health Organization (WHO).** (2009). The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification 2009. Geneva: World Health Organization.
Available at: https://www.who.int/publications/i/item/9789241547963

43. Yadav, S., & Dutta, S. (2019). A Study of Pesticide Consumption Pattern and Farmer's Perceptions towards Pesticides: A Case of Tijara Tehsil, Alwar (Rajasthan). International Journal of Current Microbiology and Applied Sciences, 8(04), 96–104. https://doi.org/10.20546/ijcmas.2019.804.012

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Author's contribution:

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Shashikesh Raj[2] - Data collection and Analysis

Lokesh Kumar Tinde[3] – Supervision and Methodology guidance

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