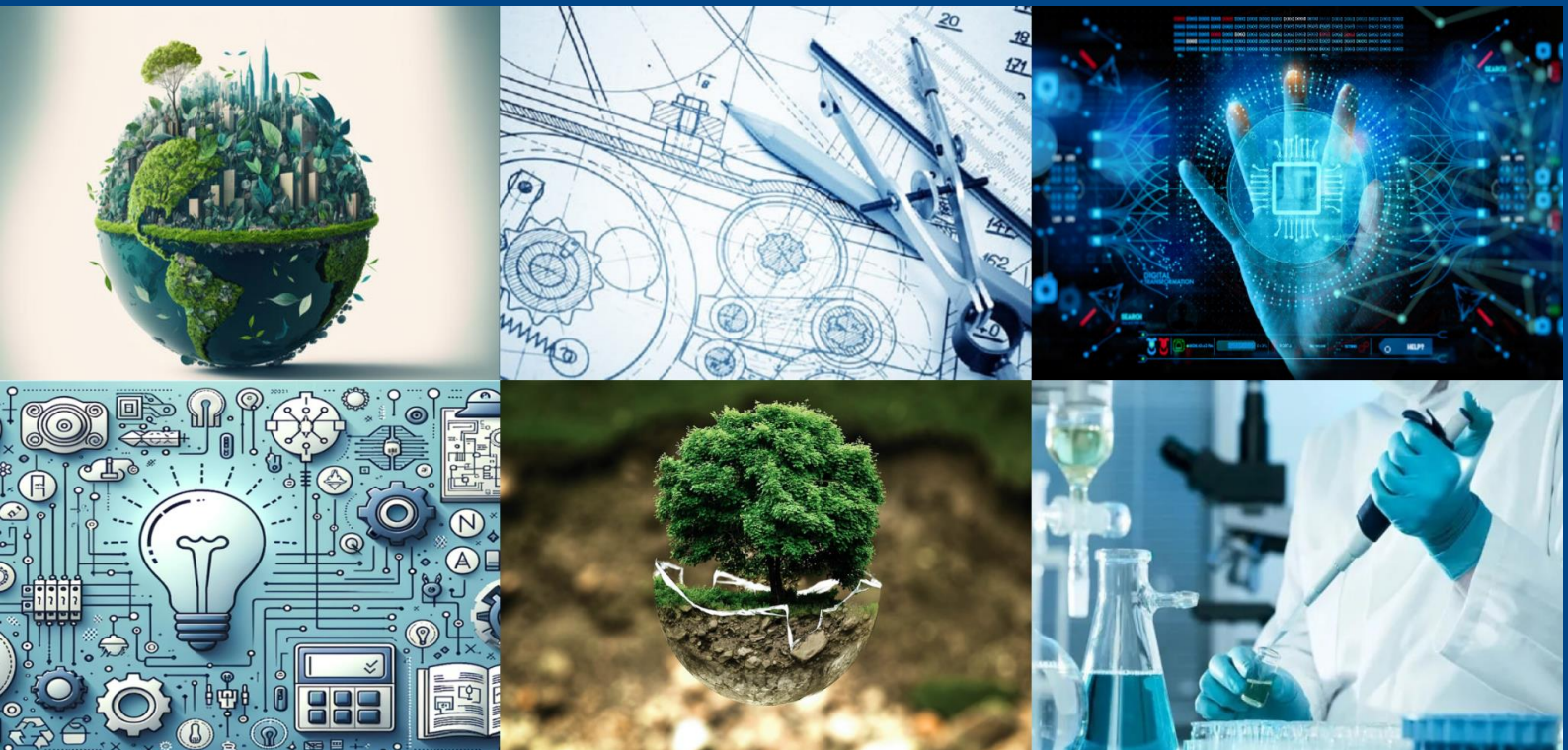




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## International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

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# A Study on a Consumer Behavior of Herbicide users in Patur Taluka

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**ABSTRACT:** This study aims to analyze the consumer behavior of farmers regarding herbicide usage in Patur Taluka. The research focuses on factors affecting their purchasing decisions, demand trends, and overall perception of herbicides. Data collection was conducted through a non-probability convenience sampling method using Google Forms, with a sample size of 100 respondents. The findings offer insights into the economic, social, and psychological aspects influencing herbicide consumption among farmers. The study identifies price sensitivity, product effectiveness, and seasonal variations as key determinants affecting farmers' choices. The results suggest a strong acceptance of herbicides among farmers, with demand increasing over time despite economic constraints. This research provides valuable information for policymakers and agricultural firms to enhance product accessibility, pricing strategies, and awareness programs for better adoption and sustainable herbicide usage.

**KEYWORDS-** Herbicide Usage, Consumer Behavior, Farmer Decision-Making, Farmers' Perception, Herbicide acceptance, Market preferences

## I. HERBICIDE INDUSTRY: AN INTRODUCTION

Agriculture plays a crucial role in economic development, and effective weed management is essential for enhancing crop productivity. Herbicides have become an indispensable tool for farmers, helping to control weeds efficiently and improve yields. However, farmers' purchasing decisions regarding herbicides are influenced by multiple factors, including economic conditions, product availability, brand reputation, and awareness levels. Understanding consumer behavior in this context is vital for agribusinesses, policymakers, and other stakeholders to develop strategies that align with farmers' needs and preferences.

This study aims to examine the consumer behavior of herbicide users in Patur Taluka, focusing on key aspects such as the decision-making process, demand for different herbicides, and the factors influencing farmers' purchasing choices. Additionally, the research seeks to understand farmers' perceptions of herbicides and their level of awareness and acceptance of these products. By analyzing these variables, the study provides insights into the patterns and motivations behind herbicide adoption in the region.

By exploring the herbicide market dynamics in Patur Taluka, this research will offer valuable data that can help businesses refine their marketing strategies and assist policymakers in formulating policies that support informed decision-making among farmers. The findings will contribute to improving market accessibility, enhancing farmer education, and promoting the adoption of effective weed management solutions, ultimately leading to increased agricultural efficiency and sustainability.

## II. LITERATURE REVIEW

- **Kale et al. (2017)** investigated the herbicide adoption patterns among cotton farmers in Vidarbha, Maharashtra. Their study found that farmers' decisions were influenced by factors such as the perceived effectiveness of herbicides, availability, cost, and recommendations from agricultural extension services. The findings indicated





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that farmers with higher education levels and greater access to agricultural information were more likely to adopt herbicides efficiently.

- **Devde (2012)** conducted research on the knowledge and adoption of chemical weed control among farmers, highlighting the factors that drive herbicide selection. The study revealed that farmers relied on personal experiences, peer recommendations, and input dealers' advice when choosing herbicides.
- **Sharma et al. (2018)** discussed the use of herbicides in comparison to other pesticides, highlighting their increasing demand due to efficiency in weed control. The study noted that while herbicides reduce dependency on manual labor, concerns regarding environmental and health hazards could impact future demand. Regulatory measures and awareness campaigns were identified as potential factors influencing herbicide market trends.
- **Pandurang (2013)** investigated the market share and potential of herbicide use in the cotton crop within Yavatmal district. The research focused on IndoFil Industry Limited and highlighted the factors driving herbicide demand, including farmer preferences, product effectiveness, and pricing strategies. The study also pointed out that localized marketing approaches and dealer influence played a significant role in shaping herbicide demand at the district level
- **Kale et al. (2017)** studied the knowledge and adoption of herbicide application practices among soybean farmers in Vidarbha. The research highlighted that farmers with higher exposure to training programs and agricultural extension services were more likely to adopt herbicides correctly. Price sensitivity, product effectiveness, and recommendations from fellow farmers were also found to be key factors influencing purchasing decisions.
- **Doke (2019)** explored the market potential, awareness, and adoption of a specific agrochemical product in Pune District, Maharashtra. The study highlighted that farmers' purchasing behavior was affected by their level of awareness, trust in brand names, and accessibility to agricultural inputs. Furthermore, word-of-mouth recommendations from progressive farmers and agricultural input dealers played a crucial role in influencing buying decisions.
- **Shinde et al. (2023)** investigated the knowledge and impression of fenugreek growers regarding insecticide usage in Western Maharashtra. While focused on insecticides, the study revealed that farmers' trust in agrochemical products depended on their personal experiences, peer recommendations, and the effectiveness of the products, which are also relevant factors in herbicide perception.
- **Suryawanshi and Patil (2016)** explored the knowledge, attitude, and practices of farm workers regarding pesticide exposure in Jalgaon, Maharashtra. The study found that while herbicides were widely used, farmers had limited awareness of safety measures and potential health risks. This lack of awareness affected their perception and willingness to use herbicides consistently.
- **Rameshbhai (2021)** conducted a study on the awareness and satisfaction levels of farmers using 'Glyzeel' herbicide in the Gir-Somnath district. The study found that while a significant portion of farmers were aware of the herbicide's benefits, their acceptance depended on product effectiveness, affordability, and recommendations from agricultural extension services. Farmers with better access to information had higher satisfaction levels with the product.

### III. RESEARCH METHODOLOGY

This research aims to study consumer behavior among herbicide users in Patur Taluka, focusing on the decision-making process, demand analysis, influencing factors, perception, awareness, and acceptance levels among farmers. The study adopts a descriptive research design, utilizing both primary and secondary data sources to gather insights. The research follows a quantitative approach, using survey-based data collection through Google Forms and interviews. A structured questionnaire will be designed to collect responses from farmers regarding their herbicide usage, preferences, and purchasing behavior. The study will consider a sample size of 100 farmers from Patur Taluka who are involved in herbicide usage. A non-probability convenience sampling technique will be used, meaning participants will be selected based on accessibility and willingness to participate in the survey. This method is suitable for reaching farmers who are actively involved in herbicide purchases and use.

#### OBJECTIVE OF STUDY

- 1) To study decision making process of farmers in Patur taluka for buying herbicide
- 2) To analyse the demand of different herbicides in market.
- 3) To identify the factors affecting the farmers buying of herbicides in Patur taluka.



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- 4) To determine the perception of farmers towards the herbicides in Patur taluka.
- 5) To explore the awareness and acceptance level of herbicide among farmers.

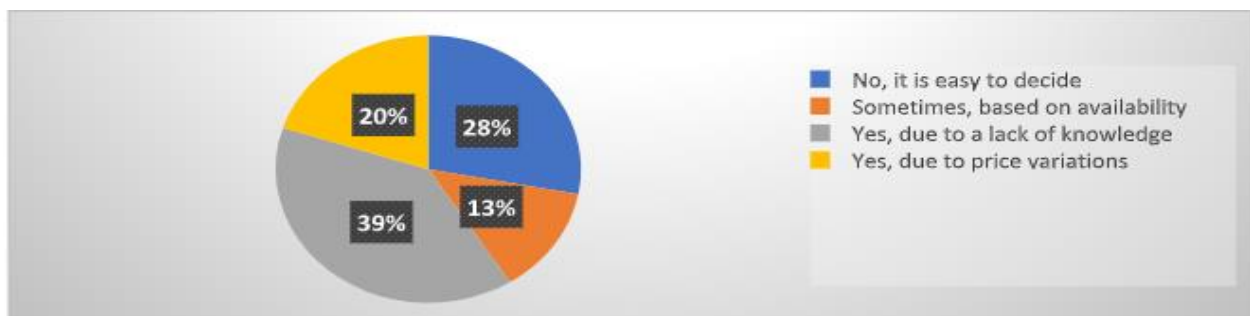
### DATA COLLECTION METHOD

The necessary data for the studies collected from the following sources:-

1. Primary Data-
  - Survey and Questionnaire
2. Secondary Data
  - Online websites /Journals /Internet /References /Academic research
  - ✓ Research Type- Descriptive type of research
  - ✓ Sample Size- 100
  - ✓ Sampling Technique- convenience Sampling
  - ✓ Collection of data through- using Google Forms

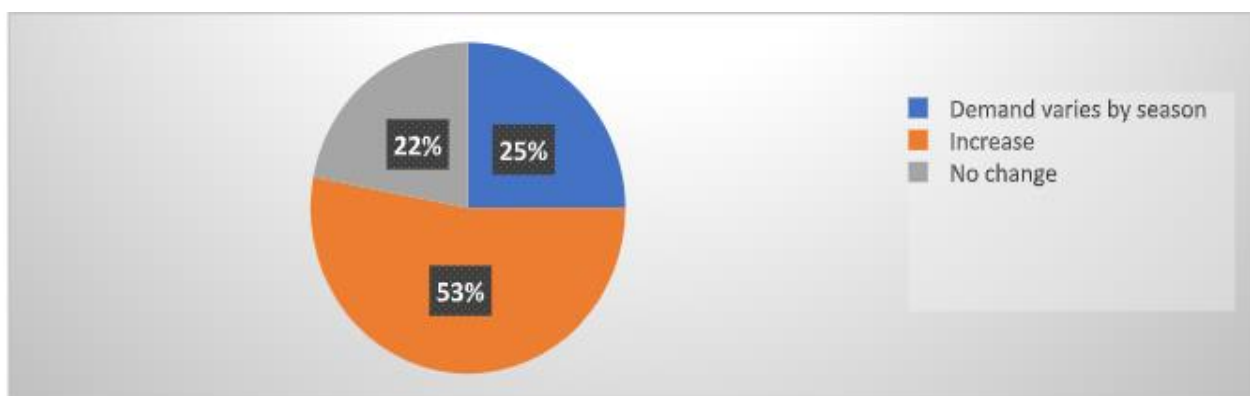
### IV. ANALYSIS AND INTERPRETATION

#### 1. Difficulties in the decision-making process for buying herbicides.



The majority of respondents (39%) face difficulties due to a lack of knowledge, indicating a need for awareness programs and training. Price variations also impact 20% of buyers, suggesting financial constraints and market instability as challenges. While 28% of respondents find it easy to decide on herbicide purchases, 13% encounter occasional difficulties due to product availability.

#### 2. An increase or decrease in the demand for specific herbicides.



The survey results indicate a notable increase in the demand for specific herbicides, with 53% of respondents reporting a rise in usage. Seasonal variations also play a role, as 25% observed fluctuations in demand depending on the time of

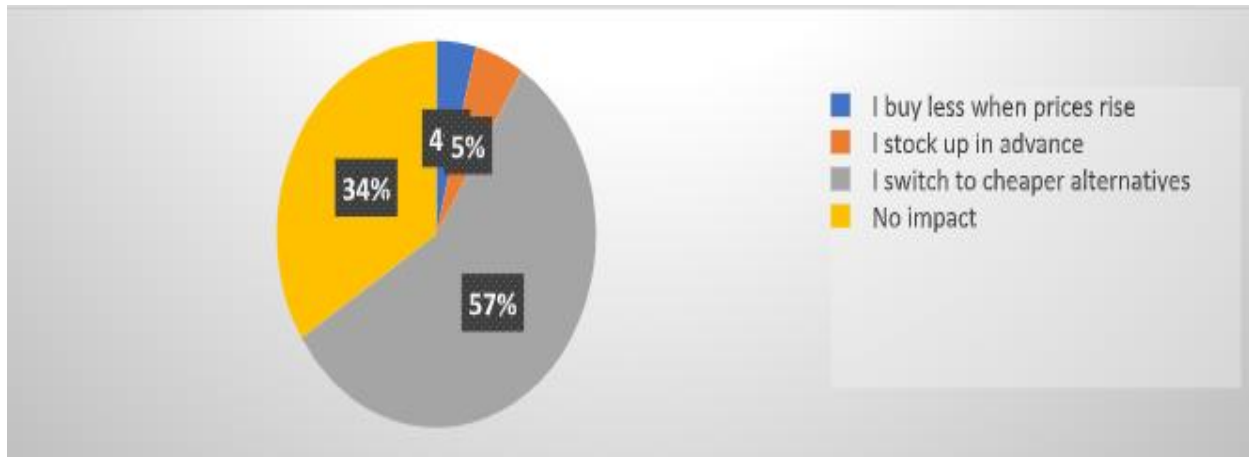


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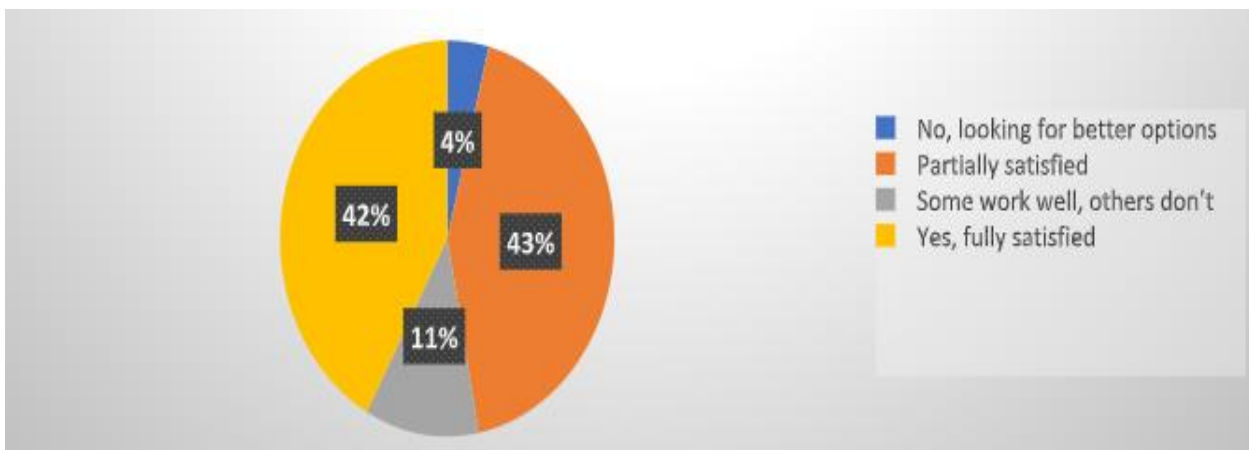
year. Meanwhile, 22% stated that there has been no significant change, and no respondents reported a decline in herbicide demand.

### 3. Price fluctuation affecting farmers purchasing decision



The survey results indicate that price fluctuations significantly influence herbicide purchasing decisions. The majority of respondents (57%) switch to cheaper alternatives when prices rise, highlighting price sensitivity among buyers. Meanwhile, 34% stated that price changes have no impact on their purchasing decisions, suggesting financial stability or brand loyalty among this group. A small percentage (5%) stock up in advance to mitigate future price increases, while only 4% reduce their purchases when prices rise.

### 4. Satisfaction level of farmers for herbicide performance in Patur Taluka



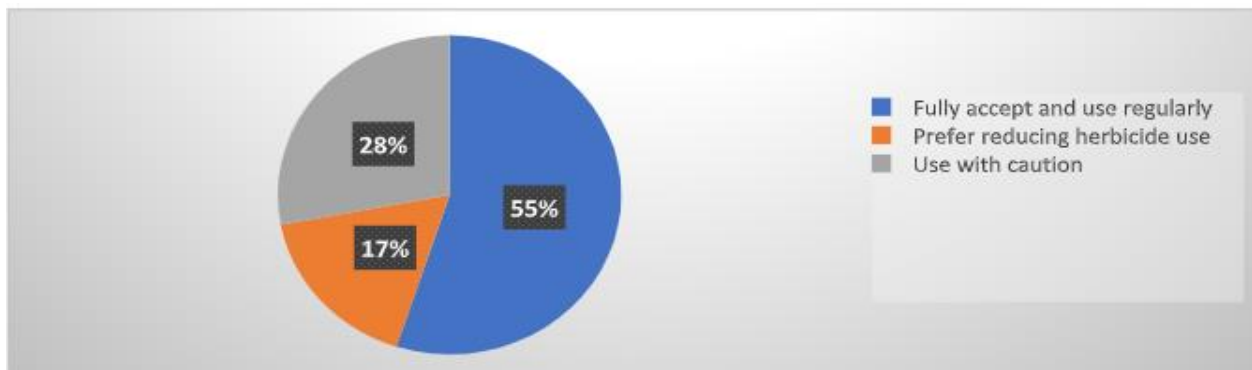
The survey results indicate that user satisfaction with herbicides is mixed. While 42% of respondents are fully satisfied with their performance, the majority (43%) express only partial satisfaction, suggesting room for improvement. Additionally, 11% believe that some herbicides work well while others do not, highlighting inconsistencies in product effectiveness. A small portion (4%) is actively looking for better alternatives, but no respondents reported concerns about price relative to quality.



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### 5. Herbicide acceptance level of farmers.



The survey results indicate widespread acceptance of herbicides, with 55% of respondents using them regularly. However, 28% use herbicides with caution, suggesting concerns about safety or environmental impact. Additionally, 17% prefer to reduce herbicide use, reflecting a shift toward sustainable weed management practices. Notably, no respondents completely avoid herbicides, indicating their continued importance in agriculture.

### V. MAJOR FINDINGS

The study found that lack of knowledge (39%) and price fluctuations (20%) are major challenges farmers face when purchasing herbicides. Additionally, availability issues (13%) impact decision-making, highlighting the need for better awareness and supply chain improvements.

Herbicide demand is increasing (53%), with seasonal variations (25%) affecting purchasing patterns. No respondents reported a decline in demand, emphasizing the continued importance of herbicides in agriculture.

Price sensitivity is high, with 57% of farmers switching to cheaper alternatives when prices rise. However, 34% remain unaffected, while a small percentage stock up (5%) or reduce purchases (4%), indicating the need for stable pricing. Satisfaction with herbicides is mixed, with 42% fully satisfied but 43% only partially satisfied. Some farmers (11%) believe product performance varies, while only 4% actively seek better alternatives, suggesting a need for product improvements.

Herbicides are widely accepted (55%), though 28% use them cautiously and 17% prefer to reduce use, signaling interest in sustainable alternatives. No respondents completely rejected herbicides, reinforcing their essential role in modern farming. These findings highlight the need for education, pricing strategies, product improvements, and sustainable solutions.

### VI. CONCLUSION

The study on consumer behavior of herbicide users in Patur Taluka highlights key factors influencing farmers' purchasing decisions, demand trends, price sensitivity, satisfaction levels, and herbicide acceptance. The findings provide valuable insights into the challenges and preferences of herbicide users, helping to identify areas for improvement in product availability, affordability, and awareness.

One of the primary challenges farmers face when purchasing herbicides is a lack of knowledge (39%). Many farmers struggle with selecting the right herbicide due to limited awareness of product effectiveness, application techniques, and safety measures. Price variations also play a significant role, affecting 20% of respondents. While 28% of farmers find it easy to make a decision, 13% report that availability issues sometimes influence their purchase. These findings highlight the need for educational programs to improve farmers' understanding of herbicide selection and application. Additionally, ensuring stable pricing and better supply chain management could reduce uncertainty and improve accessibility.



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Regarding herbicide demand, 53% of respondents observed an increase, with no reports of a decline. This indicates a growing reliance on herbicides for weed control. However, 25% of farmers noted seasonal variations, suggesting that demand fluctuates based on cropping cycles and environmental conditions. Understanding these seasonal shifts can help manufacturers and suppliers ensure consistent herbicide availability throughout the year.

Price fluctuations significantly impact purchasing behavior, with 57% of farmers switching to cheaper alternatives when prices rise. In contrast, 34% reported no impact, possibly due to brand loyalty, subsidies, or bulk purchasing. Only a small percentage (5%) stock up in advance, while 4% reduce purchases. This emphasizes the importance of affordable herbicide options and price stability to ensure consistent access for all farmers.

Satisfaction levels with herbicides are mixed. While 42% of users are fully satisfied, the highest proportion (43%) reported partial satisfaction, indicating a need for better-quality products. Some farmers (11%) noted that certain herbicides work well while others do not, and 4% are actively seeking better alternatives. This suggests an opportunity for manufacturers to improve product consistency and performance.

Herbicide acceptance remains high, with 55% of farmers using them regularly and 28% using them cautiously. However, 17% prefer to reduce herbicide use, signaling a growing interest in sustainable farming practices. While no respondents rejected herbicides entirely, the findings indicate a potential shift towards integrated weed management and alternative solutions.

### VII. FUTURE STUDY

Based on the findings of this study on herbicide user behavior in Patur Taluka, future research can explore the following areas to deepen understanding and improve agricultural practices:

1. Impact of Educational Programs on Herbicide Use
  - Assess how training and awareness initiatives affect farmers' decision-making and herbicide application practices.
2. Price Sensitivity and Market Stability
  - Investigate how price fluctuations impact farmers' purchasing decisions across different agricultural regions.
3. Alternative Weed Management Strategies
  - Explore the adoption of organic herbicides, mechanical weed control, and integrated weed management approaches.
  - Assess the feasibility of reducing chemical herbicide dependency while maintaining crop yield and profitability.
4. Seasonal Demand and Supply Chain Management
  - Study how seasonal variations affect herbicide demand and availability.
6. Comparative Analysis of Herbicide Brands
  - Compare the performance, effectiveness, and farmer satisfaction levels of different herbicide brands.
  - Identify key factors that influence brand preference and loyalty among farmers.
7. Environmental and Health Impact Studies
  - Examine the long-term effects of herbicide use on soil health, water sources, and biodiversity.
8. Role of Technology in Herbicide Application
  - Investigate the use of precision agriculture, drones, and digital tools in improving herbicide efficiency.
  - Assess how mobile apps and online platforms influence farmers' awareness and purchasing decisions.
9. Sustainability and Future Trends in Herbicide Usage
  - Study farmers' willingness to adopt bio-herbicides and environmentally friendly alternatives.
  - Evaluate policy measures that could support a transition toward sustainable weed management practices.

### REFERENCES

1. Devde, S. V. (2012). Knowledge and adoption of chemical weed control by the farmers (Doctoral dissertation, Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani).
2. Kale, N. M., Mankar, D. M., & Wankhade, P. P. (2017). Herbicide adoption pattern of cotton farmers in Vidarbha. *Indian Journal of Extension Education*, 53(4), 57-65.





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(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

3. Pandurang, Z. V. (2013). Market share, market potential of herbicide use in cotton crop in Yavatmal district with special reference to IndoFil Industry Limited Company (Doctoral dissertation, JNKVV).
4. Doke, V. Y. (2019). Market potential, awareness, and adoption of "Missile" in Pune district of Maharashtra (Doctoral dissertation, JAU, Junagadh).
5. Kale, N. M., et al. (2017). Knowledge and adoption of herbicide application practices by the soybean farmers in Vidarbha. *Legume Research: An International Journal*, 40(5).
6. Shinde, S. S., et al. "Knowledge and Impression of Fenugreek Growers about Insecticide Usage in District of Western Maharashtra, India." *Int. J. Environ. Clim. Change* 13.8 (2023): 1919-1927.
7. MN, Suryawanshi, and P. Patil. "Knowledge, attitude, practice and toxicity symptoms associated with pesticide exposure among farm workers in Jalgaon, Maharashtra, India." *Journal of Environmental Research and Development* 11.2 (2016): 371-380.
8. Rameshbhai, R. H. (2021). Awareness and satisfaction among the users of 'Glyzeel' herbicide in Gir-Somnath district.





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