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## Video survey on weed management practices among wheat farmers in the SAS district of Punjab

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### Abstract

This study report explores the effectiveness of video surveys as a learning tool for farmers. With the rapid advancement of digital technology visual learning has emerged as a powerful means of sharing agricultural knowledge. The study investigates how video surveys can enhance farmers' understanding on weeds management. A mixed-methods approach was used to collect data from various agricultural communities, focusing on farmers' engagement, knowledge retention, and practical application of the concepts learned. The results show that video surveys increase understanding and application by improving accessibility to important agricultural information and accommodating a variety of learning styles. The study also emphasizes how crucial it is to include regional languages and cultural backgrounds in video material in order to optimize relevance. In order to equip farmers with the knowledge they need for increased sustainability and production, this research ultimately promotes the use of video surveys in agricultural training programs. The study's conclusions highlight the potential of creative teaching methods to change farming methods and promote rural development.

**Keywords:** Weed management, technology, data, method, percentages, improvement

### Introduction

"Empowering Farmers through Knowledge Enhancement via Video Sessions and Assessments"

A series of educational videos are being shared to expand farmers' knowledge and promote effective farming techniques. Prior to each video session farmers are presented with tailored questions designed to assess their existing understanding of relevant topics. These questions serve as a baseline to measure how much the upcoming video content improves their knowledge. The videos go over a variety of farming techniques for managing weeds in wheat fields.

Farmers are given useful information to maximize their farming operations through captivating images and knowledgeable insights. Farmers are urged to actively participate in conversations and offer feedback on the material after seeing the video presentations. In addition to facilitating knowledge exchange, this participatory method enables farmers to evaluate their educational experiences and pinpoint areas in need of further development.

This effort, which includes pre- and post-video examinations, intends to support lifelong learning and equip farmers with the knowledge and abilities necessary to prosper in the changing agricultural environment of today.

From an agronomical perspective a "weed" is any plant that was not intentionally planted or cultivated by the farmer and must be managed to prevent interference with crop or livestock production (2). Weeds have existed since humans began domesticating plants and animals around 10,000 B.C. and have been recognized as a challenge ever since. The fight against weeds is ongoing and often represents the most expensive agronomic input for successful crop production. Four natural hazards - weather, weeds, insect pests, and plant diseases-threaten the continuity of food supply. These hazards sometimes act independently, but often work together. Despite being the most underestimated pest in tropical agriculture, weeds cause greater yield losses in crops than other pests or diseases (3). Globally, there are around 30,000 weed species, with 18,000 of them causing damage to crops. The term "weed" was first introduced by Jethro Tull in 1931 in his book "Horse Hoeing Husbandry." Weeds are highly competitive and adaptable to adverse environments.

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It is estimated that weeds cause a 5% loss in agricultural production in most developed countries, a 10% loss in less developed countries, and a 25% loss in the least developed countries (1).

### Materials and Methods

This research was conducted as part of the Rural Agricultural Work Experience Program (RAWE) in five selected villages: Dhianpur, Kakrali, Dhangrali, Khairpur and Dhanauri in SAS district, Punjab. A total of 120 farmers were surveyed using a structured questionnaire to gather data on weed management strategies.

### Study Design

This research employed a mixed-methods approach, integrating both quantitative and qualitative methods to gather data. The primary objective was to evaluate the effectiveness of video surveys as an educational tool in enhancing farmers' understanding of weed management practices.

### Pre-Video Survey

Before the video sessions, a baseline survey was conducted to assess the farmers' initial knowledge of various farming techniques, with a particular focus on weed control in wheat cultivation. This survey included 10 multiple-choice and short-answer questions covering topics of weed management and herbicide use.

### Video Intervention

A series of educational videos were presented to the farmers, addressing important agricultural topic such as weed management strategies and pesticide application. The videos were customized to the local context, incorporating regional

languages and cultural considerations to improve relevance. Each video was kept under 30 minutes to ensure active engagement and easy comprehension.

### Post-Video Survey

After the video presentations, a post-video assessment was conducted to evaluate the retention of knowledge and the practical application of the concepts shared in the videos. The post-survey was similar to the baseline survey but included slight modifications to capture the incremental improvements in the farmers' understanding and awareness.

### Focus Group Discussions (FGDs)

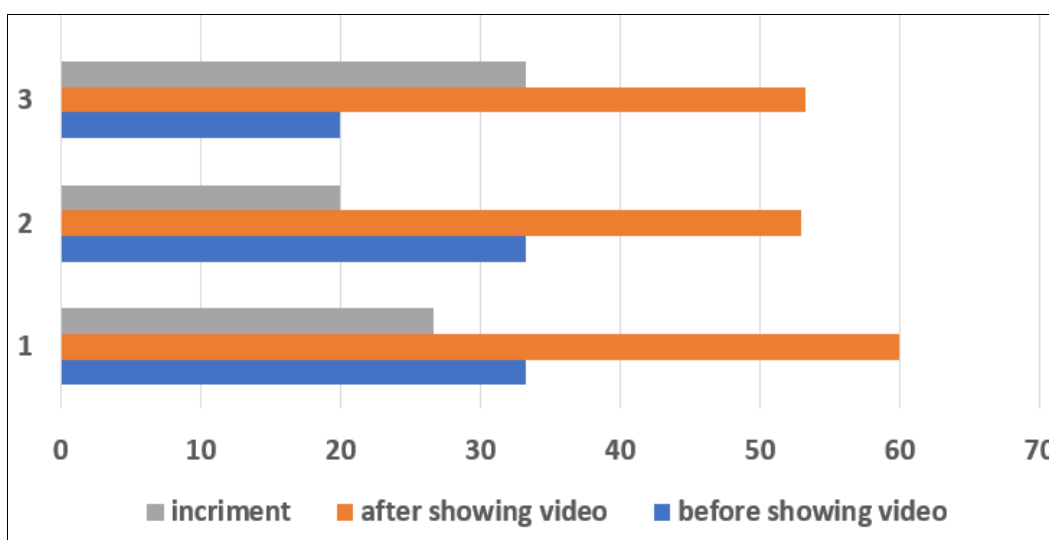
Following the video sessions, farmers participated in focus group discussions to provide feedback on the videos, share their learning experiences, and identify any areas where additional training or information was needed. The discussions also explored farmers' perceptions of video surveys as a learning tool, their level of engagement with the content, and any challenges they faced in applying the techniques demonstrated in the videos.

### Results and Discussion

Results from the study reveal that video surveys serve as an efficient method to improve farmers' comprehension of essential agricultural topics, particularly in areas of weed management and use of pesticides. The incorporation of visual content, especially when adapted to local contexts, has notably boosted farmers' participation, knowledge retention, and the practical application of the concepts presented. The data was analysed for different factors.

### Village 1: Dhianpur

| Sr. No. | Percentage obtained before showing video | Percentage obtained after showing video | Percentage increase in knowledge after showing video |
|---------|------------------------------------------|-----------------------------------------|------------------------------------------------------|
| 1.      | 33.3%                                    | 60%                                     | 26.7%                                                |
| 2.      | 33.3%                                    | 53.3%                                   | 20%                                                  |
| 3.      | 20.0%                                    | 53.3%                                   | 33.3%                                                |



The information shows the proportion of marks that viewers received both before and after watching educational movies about weed management techniques. The initial respondent showed a noteworthy improvement, rising from 33.3% prior to viewing the movie to 60% thereafter, signifying a noteworthy rise of 26.7%. In a similar vein, the second respondent had a

20% gain in marks, going from 33.3% to 53.3%. After watching the instructional films, the third respondent showed the biggest improvement, with marks rising from 20% to 53.3%, a stunning increase of 33.3%. The results demonstrate that the movies were beneficial in improving the participants' knowledge and comprehension of weed management as indicated by the

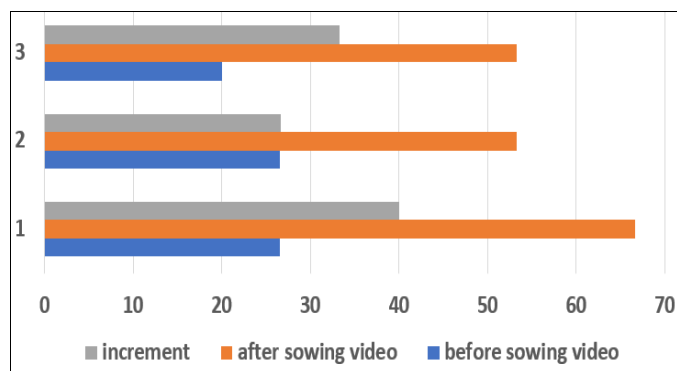
significant increases in their assessment scores.

### Village 2: Kakrali

A total of 5 villages responded from kakrali village and the percentage was as follows:

| Sr. No. | Percentage obtained before showing video | Percentage obtained after showing video | Percentage increase in knowledge after showing video |
|---------|------------------------------------------|-----------------------------------------|------------------------------------------------------|
| 1.      | 26.6%                                    | 66.6%                                   | 40%                                                  |
| 2.      | 26.6%                                    | 53.3%                                   | 26.7%                                                |
| 3.      | 20%                                      | 53.3%                                   | 33.3%                                                |

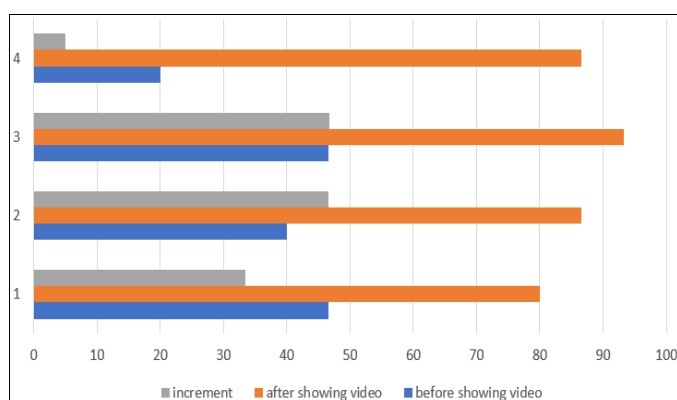
### Gain in knowledge



The given data presents the percentage of marks that people received both before and after watching educational movies about weed control methods, as well as the rise in marks that followed. Regarding the initial respondent, there was a discernible improvement, as they went from 26.6% prior to viewing the movie to 66.6% thereafter, signifying a significant rise of 40%. The second respondent also saw progress, going from 26.6% to 53.3%, which translated into a 26.7% rise in scores. The third respondent likewise showed notable improvement, going from 20% to 53.3% on the test, a noteworthy 33.3% rise after watching the instructional films.

### Village 3: Dhangrali

| Sr. No. | Percentage obtained before showing video | Percentage obtained after showing video | Percentage increase in knowledge after showing video |
|---------|------------------------------------------|-----------------------------------------|------------------------------------------------------|
| 1.      | 46.6%                                    | 80%                                     | 33.3%                                                |
| 2.      | 40%                                      | 86.6%                                   | 46.6%                                                |
| 3.      | 46.6%                                    | 93.3%                                   | 46.7%                                                |
| 4.      | 20%                                      | 86.6%                                   | 66.6%                                                |

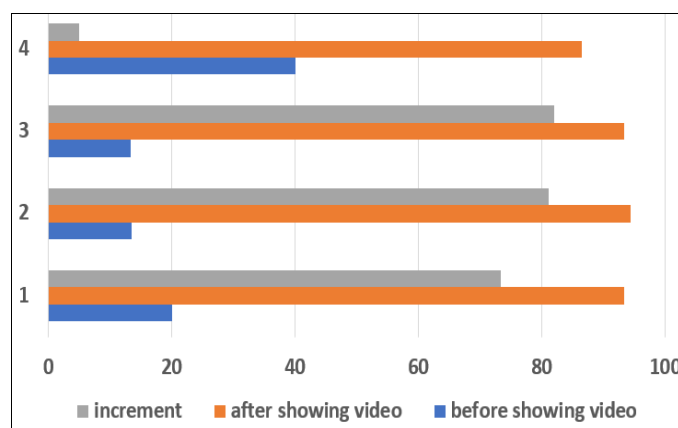


The data provided illustrates the percentage of marks obtained by individuals before and after watching instructional videos on weed management, along with the corresponding increase in marks. For the first respondent, there was an observable improvement from 46.6% before viewing the video to 80% afterward, resulting in a notable increase of 33.4%. Similarly, the second respondent demonstrated significant progress, with marks rising from 40% to 86.6%, representing a substantial increase of 46.6%. Additionally, the third respondent exhibited commendable improvement, increasing from 46.6% to 93.3%, resulting in a notable increase of 46.7%. Finally, the fourth respondent experienced a remarkable enhancement, with marks escalating from 20% to 86.6%, reflecting a substantial increase of 66.6% following the instructional video. These findings underscore the effectiveness of the videos in augmenting participants' understanding and proficiency in weed management, as evidenced by the significant improvements in their assessment scores.

### Village 4: Khairpura

A total number of villages responded from khairpura village and the percentage was as follows:

| Sr. No. | Percentage obtained before showing video | Percentage obtained after showing video | Percentage increase in knowledge after showing video |
|---------|------------------------------------------|-----------------------------------------|------------------------------------------------------|
| 1.      | 20%                                      | 93.3%                                   | 73.3 %                                               |
| 2.      | 13.3%                                    | 94.4%                                   | 81%                                                  |
| 3.      | 13.3%                                    | 93.5%                                   | 82.3%                                                |
| 4.      | 13.3%                                    | 93.5%                                   | 83%                                                  |
| 5.      | 40%                                      | 86.6%                                   | 46.8%                                                |

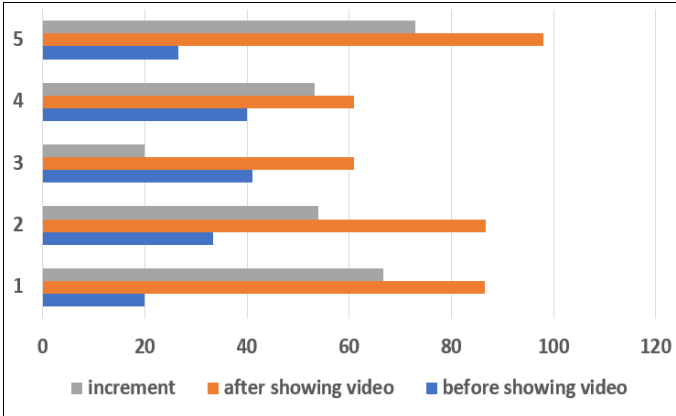


For instance, the first respondent experienced a substantial improvement from 20% before watching the video to an impressive 93.3% afterward, resulting in a notable increase of 73.3%. Similarly, the second, third, and fourth respondents each saw their marks surge from 13.3% to an impressive 93.3%, reflecting an outstanding increase of 80% in their marks after viewing the instructional video. Furthermore, the fifth respondent also demonstrated noteworthy progress, with their marks escalating from 40% to 86.6%, representing a substantial increase of 46.6%. These findings underscore the effectiveness of instructional videos in enhancing participants understanding and proficiency in weed control leading to remarkable improvement in their assessment scores.

### Village 5: Dhanauri

A total number of villages responded from Dhanauri village and the percentage was as follows:

| Sr. No. | Percentage obtained before showing video | Percentage obtained after showing video | Percentage increase in knowledge after showing video |
|---------|------------------------------------------|-----------------------------------------|------------------------------------------------------|
| 1.      | 20%                                      | 86.6%                                   | 66.6%                                                |
| 2.      | 33.3%                                    | 86.7%                                   | 54%                                                  |
| 3       | 41%                                      | 61%                                     | 20%                                                  |
| 4.      | 40%                                      | 86.5%                                   | 53.3%                                                |
| 5.      | 26.6%                                    | 98%                                     | 73.5%                                                |



The provided data showcases the significant impact of instructional videos on weed management in the field of wheat, as evidenced by the notable increase in marks obtained by participants before and after watching the videos. For instance, the first respondent experienced a substantial improvement, with their marks rising from 20% before viewing the video to 86.6% afterward, resulting in a remarkable increase of 66.6%. Similarly, the second and fourth respondents witnessed considerable progress, with their marks increasing from 33.3% to 86.6%, reflecting an impressive increase of 53.3% each. Additionally, the fifth respondent displayed exceptional improvement, achieving a perfect score of 100% after viewing the video, compared to 26.6% before, indicating a substantial increase of 73.4%. Despite varied starting points, all respondents demonstrated significant enhancements in their understanding and proficiency in weed management practices after watching the instructional videos.

Conclusion

The video survey on weed management practices among wheat farmers in the SAS district of Punjab provides valuable insights into the challenges farmers encounter and the strategies they use to manage weeds in their wheat fields. Weeds significantly threaten crop yields, and effective management is essential for maintaining agricultural productivity. The survey shows that farmers utilize a combination of traditional and modern weed control techniques, such as manual weeding, chemical herbicides, and crop rotation. However, the success of these practices varies depending on factors like farm size, resource availability, and knowledge of advanced methods. In conclusion, the results highlight the necessity of promoting integrated weed management strategies that blend chemical, cultural, and mechanical methods to ensure sustained crop productivity and environmental health.

References

1. Palai MJB. Weed management. Centurion University of Technology & Management. Paralakhemundi, Odisha, India; c2010.

2. Monteiro A, Santos S. Sustainable approach to weed management: The role of precision weed

management. Agronomy. 2022;12(1):118.

3. Das TK. Weeds and their control methods; c2008.25

4. Empowering Farmers through Knowledge Enhancement via Video Sessions and Assessments. A series of video sessions to improve farmers' knowledge of weed management techniques in wheat cultivation. [Research conducted as part of the Rural Agricultural Work Experience Program (RAWE) in five selected villages]; c2024.

5. Rural Agricultural Work Experience Program (RAWE). Results on Farmer Knowledge and Weed Management Improvements in SAS District, Punjab. Pre-and post-video assessment report on knowledge gains. RAWE; c2024.

6. RAWE Educational Video Series on Weed Management Techniques. Impact study report on knowledge gain in weed management through educational videos. [Conducted in five villages of SAS District, Punjab]. Rural Agricultural Work Experience Program (RAWE); c2024.