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Opinion of Farmers regarding Video-Based Information Dissemination for Tomato Cultivation

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ABSTRACT

Information and Communication Technology (ICT), including video resources, plays a crucial role in bridging this gap by enhancing access to innovative agricultural techniques. This study focused on assessing this effectiveness of instructional videos on tomato cultivation, aiming to ascertain farmers' opinion regarding different aspects of the video. A total of 160 respondents were selected for the study and the data were collected using a structured interview schedule. The videos covered key aspects of tomato cultivation, and farmers were asked to give their opinion based on accuracy, content coverage, relevance, clarity, and other criteria. Results indicated that the instructional videos were well-received, with 72.5 per cent of respondents rating them highly for accuracy, 75.0 per cent for content coverage, and 88.8 per cent for relevance. The positive opinion underscores the potential of video-based education in agriculture. The integration of such instruction videos can provide farmers with accessible, reliable, and comprehensive information, ultimately improving agricultural practices and outcomes.

Key Words: Dissemination, Information, Instruction, ICT, Opinion, Videos.

INTRODUCTION

Agricultural extension involves not only the dissemination of technological packages developed by researchers but also the sharing of experiences and effective techniques among local farming communities. Various extension methods and approaches have been employed over the years. These include the agricultural technology management agency (ATMA), commodity approach, extension reforms approach, farming system approach (FSA), general extension approach, information and communication technology (ICT), participatory approach, project approach (Kareem and Phand, 2018). Some of these methods aim to provide first-hand information and tailored advice to meet the specific circumstances and needs of farmers (Karubanga *et al,* 2016; Okry *et al,* 2014).

Despite the efficacy of these approaches, rural farmers often lack access to best practices and knowledge essential for enhancing their skills and organizational capabilities to capitalize on market opportunities. In the rapidly evolving landscape, ICT plays a crucial role in supporting agricultural extension efforts by facilitating the dissemination of innovative practices. Technologies such as television, radio, video, telephones and social media significantly improve farmers' access to information and stimulate learning (Bashir *et al*, 2022; Bentley *et al*, 2014). Videos complement traditional extension tools, particularly in situations where resources for demonstrations are limited. Consequently, videos have been widely utilized across various contexts (Zossou *et al,* 2009; Zossou *et al* 2016). Karubanga *et al* (2016) demonstrated that in Uganda, videos effectively complement traditional extension methods and can fill gaps left by the absence of extension agents.

Videos integrate both auditory and visual elements. Given the favorable results obtained from the use of videos in agriculture and other contexts, disseminating agricultural information through videos, such as tomato cultivation

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practices, can significantly enhance farmers' knowledge. This improvement in knowledge can lead to the adoption of better practices and ultimately increase productivity. However, there are no studies in the literature on developing videos specifically for tomato cultivation.

These videos covered various practices, including nursery raising, irrigation scheduling, weed management, insect-pest management, disease management, and harvesting of tomato crops. After developing these videos, they were shown to tomato growers, who were then asked for their opinions on different aspects of the videos. Therefore, this study aimed to ascertain the opinions of tomato growers regarding these developed videos.

MATERIAL AND METHODS

The present study was conducted in the Punjab state, specifically targeting two districts namely, Amritsar and Patiala in Punjab. These districts were purposively selected due to the extensive area under tomato cultivation, making them ideal for this research. From each district, two villages were randomly selected from each block, resulting in a total of eight villages being included in the study. Twenty respondents were selected from each of the eight villages, therefore, a total of 160 respondents were selected for the study. An interview schedule was meticulously prepared and utilized for data collection from the tomato growers, ensuring that comprehensive and relevant information was obtained regarding their opinion towards the developed videos.

The videos on tomato cultivation were meticulously developed through a structured process that included both the development and validation phases. Initially, content for the videos was carefully crafted to cover essential aspects of tomato cultivation, ensuring accuracy, clarity, and relevance. Experts in the field were consulted to validate the content, and the videos were subsequently refined based on their feedback. Once finalized, these videos were exposed to the selected tomato growers. The growers were then asked to provide their opinions on various aspects of the videos, such as accuracy, coverage of content, relevancy, clarity, addressability of queries, mode of video screening, simplicity of message, self-explanatory nature, intent of motivation, usefulness, newness of ideas, and duration.

RESULTS AND DISCUSSION

Opinion of respondents towards different aspect of instructional videos

The analysis of respondents' opinion toward instructional videos highlighted several key aspects contributing to the effectiveness of these educational tools. The accuracy, coverage, relevancy, and clarity were highly rated, indicating the videos' strong credibility and comprehensiveness were crucial for building trust and ensuring effective knowledge transfer among tomato growers.

Accuracy of the videos

The accuracy refers to how well a video reflects the correctness of the subject matter. In this case, 72.5 per cent of respondents found the video to be fully accurate, indicating a high level of confidence in the information presented. The mean opinion score of 2.73 out of 3 suggested that viewers perceive the video as mostly or completely accurate, which was crucial for building trust and credibility. The findings emphasized that providing reliable information is essential for successful knowledge transfer, aligning with previous research that highlights the significance of accuracy in educational media (Smith *et al,* 2020).

Coverage of content

The coverage of content assessed whether the video adequately addressed the topics it intends to be covered. In present investigation, 75.0 per cent of respondents felt that the videos fully covered the content, indicating a comprehensive treatment of the subject matter, while 10 per cent found that the content of the videos was somewhat covered and 15 per cent felt that videos content was not fully covered, suggesting room for improvement. The mean opinion score of 2.60 out of 3 suggested that most of the content was covered as per the opinion of the respondents. Comprehensive coverage of essential topics ensured that the audience can apply the knowledge practically, which is vital for

Table 1. Distribution of respondents according to their opinion regarding different aspects of the instructional videos (n=160).

Sr. No.	Opinion towards different aspects of the videos	Frequency	Percentage	Opinion score Mean ±SD
1.	**Accuracy**			
	Fully accurate	116	72.5	2.73±0.45
	Somewhat accurate	44	27.5	
	Not accurate	0	0.0	
2.	**Coverage of content**			
	Fully covered	120	75.0	2.60±0.74
	Somewhat covered	16	10.0	
	Not fully covered	24	15.0	
3.	**Relevancy**			
	Relevant	142	88.8	2.89±0.32
	Somewhat relevant	18	11.3	
	Not relevant	0	0.0	
4.	**Clarity**			
	Clear	144	90.0	2.90±0.30
	Somewhat clear	16	10.0	
	Not clear	0	0.0	
5.	**Addressability of queries**			
	Fully address queries	105	65.6	2.52±0.63
	Somewhat queries	33	20.6	
	Not address queries	22	13.8	
6.	**Mode of video screening**			
	Appropriate	134	83.8	2.84±0.37
	Somewhat appropriate	26	16.3	
	Not appropriate	0	0.0	
7.	**Simplicity of message**			
	Simple	140	87.5	2.88±0.33
	Somewhat simple	20	12.5	
	Not simple	0	0.0	
8.	**Self-explanatory**			
	Self-explanatory	160	100.0	3.00±0.00
	Moderately self-explanatory	0	0.0	
	Not Self-explanatory	0	0.0	
9.	**Intent of motivation**			
	Highly motivation	98	61.3	2.61±0.49
	Somewhat motivation	62	38.8	
	Not at all motivation	0	0.0	
10.	**Usefulness**			
	Useful	103	64.4	2.46±0.79
	Somewhat useful	27	16.9	
	Not useful	30	17.7	
11.	**Newness in ideas**			
	New	90	56.2	2.43±0.71
	Somewhat new	49	30.6	
	Not new	21	13.1	
12.	**Duration**			
	Appropriate	160	100.0	3.00±0.00
	Somewhat appropriate	0	0.0	
	Not appropriate	0	0.0	

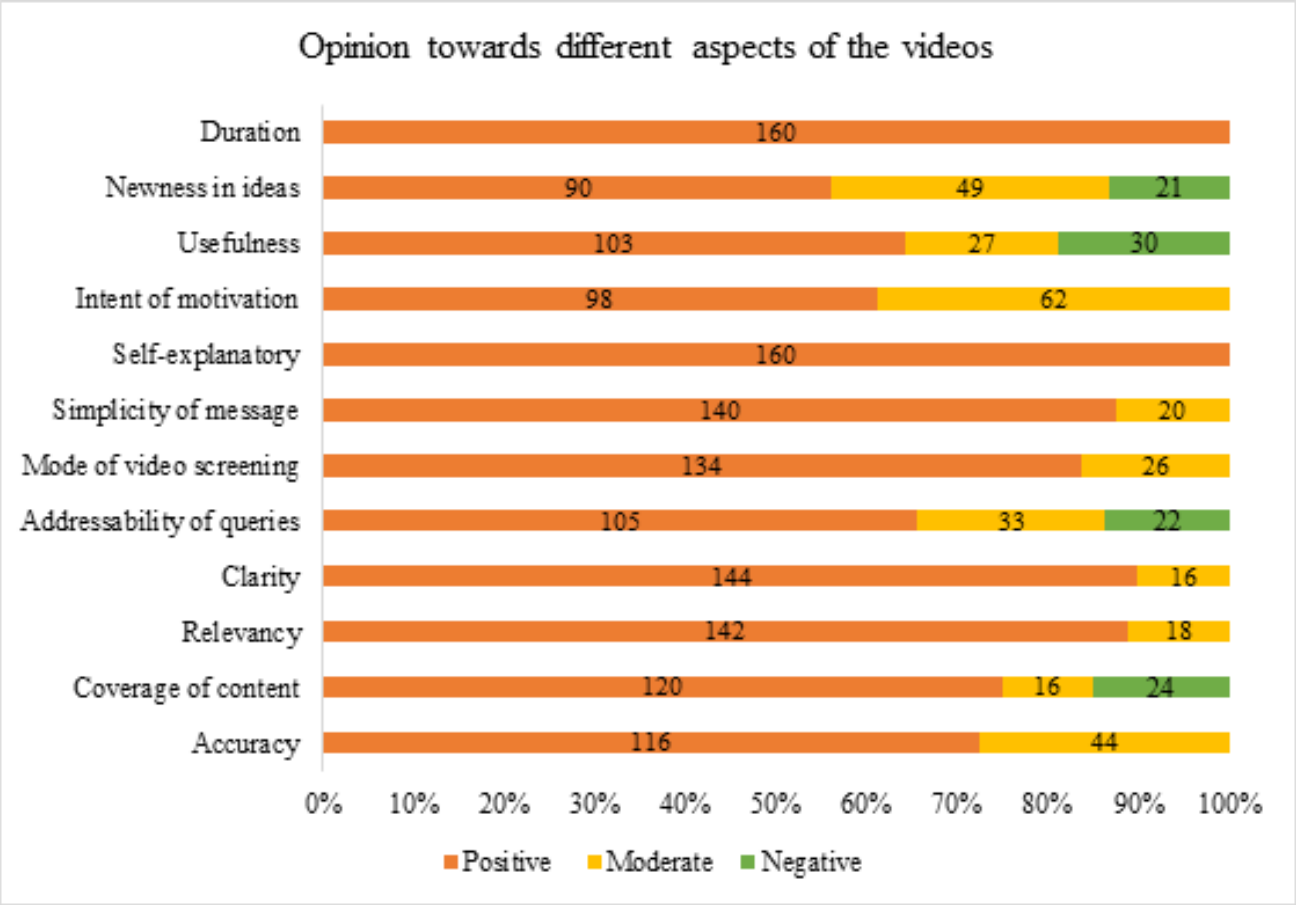

Figure 1: Opinion of the respondents regarding various aspects of the instructional videos (n =160).

enhancing farming practices (Chaudhary, 2004; Van der Meij, 2017).

Relevancy

Relevancy measures how pertinent and applicable the content of the video was to the viewers' interests or needs. The videos were perceived as highly relevant, with 88.8 per cent of respondents finding the content applicable to their needs. The mean score in this category suggested that the videos resonated well with the audience's practical challenges. This alignment with real-world concerns was critical for fostering engagement and knowledge uptake, as confirmed by previous studies (Chen *et al*, 2018).

Clarity of videos

Clarity refers to the ease of understandability and in-depth explanation content of the video. With 90.0 per cent of respondents rating the video as clear, with a high mean score of 2.90 out of 3. The clear presentation of information was crucial for ensuring that complex agricultural concepts are easily understood by growers, regardless of their educational background. This clarity made it easier for farmers to absorb and apply the information in their daily practices (Brown and Smith, 2017; Li *et al*, 2019).

Addressability of queries

Addressing viewer queries was rated moderately, with 65.6 per cent of respondents indicating their questions were fully addressed (mean score of 2.52) followed by 20.6 per cent of the respondents who felt their queries were partial addressed. However, 13.8 per cent felt their concerns were not resolved. This suggested a need for improvement in providing detailed responses to specific queries. Enhanced content that includes interactive elements or supplementary materials may better address this gap.

Mode of videos screening

The mode of video screening evaluates whether the method of presenting the video was suitable and effective. The mode of video screening was well-received, with 83.8 percent of respondentsfound it appropriate, reflected in a mean score of 2.84. The technical aspects of the videos, such as audio-visual quality and the user interface, contributed to an effective viewing experience. These factors were crucial for delivering an engaging and accessible learning platform (Shrestha *et al*, 2022).

Simplicity of message

The simplicity of the message was another highly rated aspect, with 87.5 per cent of respondents appreciating how straightforward and simple the content was, resulting in a mean score of 2.88. The simplicity ensured that the videos were accessible to a wide audience, making complex topics easy to grasp without the need for additional explanations. Simple messaging was essential for effective communication, particularly for audiences with varying levels of literacy (Brown and Smith, 2017).

Self-explanatory

All respondents found the video as self-explanatory, indicating unanimous agreement that the content was clear and easily comprehensible. The highest possible mean opinion score of 3 out of 3 confirms that viewers found the video exceptionally easy to grasp.

Intent of motivation

In terms of motivation, 61.3 per cent of respondents found the videos highly motivational, though the mean score of 2.61 suggested room for improvement. Incorporating motivational elements, such as success stories of other growers or emotional appeals, could further inspired viewers to adopt new practices and apply the techniques presented in the videos (Chepkoech, 2015).

Usefulness

The data showed that majority of the respondents (64.4%) were having opinion that the content covered under the videos were useful to them while 17-18 per cent of the respondents found the content somewhat or not useful at all. This could be due to either their pre-existing adoption of those practices or their lack of awareness regarding the potential benefits of adopting them. The mean score of 2.46 reflects that there is potential to increase the practical applicability of the videos. Including more detailed instructions or real-life case studies could make the content more relevant to farmers' everyday needs, enhancing its usefulness (Muyal, 2018).

Innovative ideas

Newness or novelty in ideas refers to fresh, original and innovative concepts, approaches or solution that were different from the existing ones. The data (Table 1) showed that 56.2 per cent of respondents felt that the video introduced new ideas, there were also those who perceived the idea as somewhat new or not new at all, resulting in a mean score of 2.43. While the videos introduced some new ideas, there is an opportunity to incorporate more cutting-edge practices or recent research findings to make the content more engaging and forward-thinking (Thapa *et al,* 2020).

Duration

The duration of the videos was unanimously considered appropriate, with all respondents agreeing that the length was ideal, resulting in a perfect mean score of 3 out of 3. This balance ensures that the videos maintain viewer interest without being too lengthy or too brief, allowing the audience to absorb the content without feeling overwhelmed (Nisha, 2021).

The instructional videos were well-received by the respondents, with high levels of satisfaction across multiple aspects such as accuracy, clarity, relevance, and simplicity. These characteristics are crucial for effectively communicating agricultural practices to farmers. The thoroughness of the content ensured that essential topics were adequately covered, aiding in knowledge building and practical application in tomato cultivation. The appropriate duration of the videos also played a key role in maintaining viewer engagement, making the information easier to absorb and retain.

Despite these positive outcomes, there are areas for improvement. The addressability of queries could be enhanced by providing more detailed answers to farmers' specific concerns. This could involve incorporating more interactive elements or supplementary materials to fully resolve common questions. Additionally, while the videos were perceived as useful, there is room to increase their practical applicability by providing more hands-on examples, demonstrations, and case studies that can be directly replicated by farmers.

The innovative aspect of the videos was moderate, and respondents indicated a desire for more fresh ideas and updated agricultural practices. Incorporating cutting-edge techniques or novel approaches could keep the content engaging and encourage farmers to explore new methods. Furthermore, while the videos were motivational to some extent, they could be enhanced to inspire farmers more effectively. Adding emotional appeals, success stories, and testimonials from fellow farmers could boost the motivational impact, encouraging a proactive approach to adopting new practices.

Overall, the instructional videos were effective in delivering accurate, relevant, and clear information, addressing the identified areas for improvement could significantly increase their practical usefulness, innovation, and motivational impact. By making these adjustments, the videos could serve as even more powerful tools for educating and empowering tomato growers, ultimately contributing to improved farming outcomes (Chaudhary, 2004; Chepkoech, 2015; Van der Meij, 2017; Shrestha *et al,* 2022).

CONCLUSION

The findings revealed a positive opinion among farmers towards instructional videos, emphasizing their perceived accuracy, comprehensive content coverage, relevance to local farming contexts, and clarity of presentation. These attributes were crucial in building trust and credibility among users, essential for effective knowledge transfer. The study underscored the transformative potential of video-based information dissemination in agriculture, offering scalable solutions to address the information gaps faced by rural farmers. By leveraging technology to disseminate practical knowledge effectively, agricultural extension efforts can be significantly enhanced, leading to improved farm productivity and sustainable agricultural practices.

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