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The Study on Rice Management of Farmers in Sahibzada Ajit Singh Nagar (Sas Nagar) District of Punjab, India

Aditya Sambyal*, Vaishali and Gurshaminder Singh
University Institute of Agricultural Sciences, Chandigarh University, Gharuan (Punjab), India.

(Corresponding author: Aditya Sambyal)*
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ABSTRACT: This study examines the important role of agricultural education in promoting increased profitability, efficiency, environmental responsibility, technological development, and environmental stability, rice management of Sahauran, Hasanpur, Radiala, Ghataur, Allahpur, Sahibzada Ajeet Singh Nagar (SAS Nagar) district of Punjab, India. This study used a questionnaire-based method to collect data from interviews with 40 farmers. The main objective is to study the socio-economic factors that influence the lifestyle and employment conditions of the agricultural population in these regions. The aim of the study was to gain insight into the socio-economic situation, considering that some people experienced an improvement in their quality of life, while others continued to live in poor conditions. This report emphasizes the need to examine socio-economic status, taking into account the community as a whole, working conditions, educational background, labor income, population characteristics and initiatives. To evaluate the profile of social farmers, important factors such as age, education level, land ownership, family structure, and source of information are selected. These observations help reveal the socio-economic dynamics of farming communities and have important implications for targeted education and development efforts. The gain in knowledge level regarding rice management after watching video that there was a significant gain in knowledge of farmers regarding rice management after watching the video films. The results also indicate that before 70% and get increase after watching video film by 88%.

Keywords: Socio-economic determinants, quantitative and qualitative data, education, village, survey.

INTRODUCTION

In rural areas, where rice is a staple food and the basis of livelihood, effective disease management is of paramount importance to ensure food security and sustainable agricultural practices. However, disseminating knowledge and implementing best practices for disease management in remote villages often faces significant challenges due to limited access to educational resources and methods. Traditional education still has its limits (Ahmad *et al.,* 2017). Given these challenges, our study aims to investigate the effectiveness of visual learning tools, especially through the use of videos, to improve rice disease management in agriculture. The focus of our study was the implementation of a community intervention presenting a comprehensive video on rice disease management in six different villages. The decision to use video as an educational medium is based on its ability to overcome literacy barriers, accommodate different learning styles, and promote knowledge retention through visual and auditory stimulation. By harnessing the power of visual storytelling, we equip people with practical information and concrete strategies to detect, prevent, and minimize the impact of widespread infectious diseases around the world. We aim to provide US. Video content is carefully curated to meet the specific needs and context of your audience. This video, based on insights from local agronomists, research, and indigenous knowledge, explains how to identify common rice diseases, highlights their causes, and supports integrated disease management approaches provides step-by-step guidance. Additionally, the videos include testimonials from experienced farmers and practical demonstrations of disease management techniques, making them more relevant and trustworthy to viewers (Krieger *et al*., 1997; Pandey & Upadhayay 2012).

The FIVE selected villages represent a wide range of socio-economic backgrounds, agricultural practices, and geographic regions, ensuring the completeness and generalizability of the results. Prior to video screening, a baseline assessment was conducted to identify gaps in knowledge, awareness, and practice regarding rice disease management in each community (Kaur *et al.,* 2023; Khadda *et al.,* 2018). Subsequently, 4,444 facilitated screening sessions were held in collaboration with local community leaders, extension agencies, and grassroots organizations to foster a learning environment that fosters participation and inclusion. Video broadcasts will be followed by interactive discussions, knowledge-sharing sessions, and practical training workshops, where citizens are encouraged to actively engage with the content, ask questions, and share their experiences (Roy *et al.,* 2013). Focusing on a bottom-up approach, our interventions focus on community empowerment, capacity building, and promoting local expertise in disease management practices. Through rigorous monitoring and evaluation

methods, including pre- and post-intervention surveys, group discussions, and field observations, we sought to assess the impact of the video intervention on local knowledge growth, behavior change, and agricultural productivity (Ramniwas *et al.,* 2022a). By reconciling quantitative and qualitative data, we aim to unravel the nuanced pathways by which visual learning tools can transform rural agricultural landscapes. In summary, our study bridges the gap between scientific knowledge and basic practice by leveraging the potential of visual learning tools to empower rural communities in rice disease management (White, 1982). We are aiming for by fostering a culture of continuous learning, innovation and knowledge sharing, we aim to build resilient and self-reliant farming communities that can meet the complex challenges arising from times of global change.

MATERIALS AND METHODS

The present day study was designed to know the socio-economic status of the farmers in SAHAURAN, HASANPUR, RADIALA, GHATAUR, ALLAHPUR, TEHSIL KHARAR SAHIBZADA AJEET SINGH NAGAR (SAS NAGAR) DISTRICT OF PUNJAB, INDIA. The interviews of 40 farmers were recorded.
In the data given below percentages are also given for a better understanding where we use the formula:

Table 1: Depicts the age of the respondents from all villages.

Sr. No.	PARAMETERS Age	SAHAURAN n=12	HASANPUR n=8	RADIALA n=8	GHATAUR n=6	ALLAHPUR n=6	OVER ALL n=40
1.	16-35	4	1	2	1	2	10(25%)
2	36-55	5	3	5	4	2	19(48%)
3	56-75	3	4	1	1	2	11(28%)

Percentage (%) = N/ n*100
where,
N- total no. of respondents from all the 5 villages i.e., 40 respondents.
n- no. of respondents from each village.

RESULTS AND DISCUSSION

Various socioeconomic survey topics were examined, and the outcomes will be discussed in the subsequent sections:
AGE: Age and qualification are the main parameters which affect the each and every occupation. As per the data collected most of the farmers lies in 36-55 age group category i.e. 48% and overall l25% farmers lie in 16-35 age group and 28% in 56-75 age group, 0 above 76 as shown in Table 1 and Fig. 1.

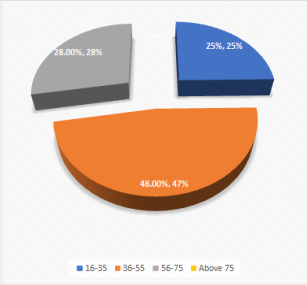

Fig. 1. Depicts the age of the 40 farmers.

Before/After Questionnaire. The below mentioned graph shows the difference in the knowledge of farmers before and after watching the video A set of questions were asked to the farmers to test their knowledge about disease management of rice and the average result of each village is mentioned as The education of the 40 farmers from all five villages showed that had attended questionnaire to find the differences between the before the vedio & after the vedio the 16-35 age group of farmers knowledge of the questions and give the correct answer before 20% and after 31% the difference of before and after 12% into find the differences between the before the vedio & after the vedio 36-55 age group of farmers knowledge of the questions and give the correct answer before 22% and after 31% the difference of before and after 9% and to find the differences between the before the vedio & after the vedio the 56-75 age group of farmers knowledge of the questions and give the correct answer before 17% and after 28% the difference of before and after 11% Mentioned below in Table 4 and represented in Fig. 4.
Percentage (%) = m/ n*100
where,
N- total no. of respondents from all the 5 villages i.e., 40 respondents.
n- no. of respondents from each village.
m – total no. of questions

Table 2: Before Questionnaire/After Questionnaire of 40 farmers.

Sr. No.	PARAMETERS age	SAHAURAN n=12 m=15	HASANPUR n=8 m=15	RADIALA n=8 m=15	GHATAUR n=6 m=15	ALLAHPUR n=6 m=15	OVER ALL n=40 m=15
1.	16-35	9 / 13	6 / 12	9 / 13	7 / 11	8 /13	7.8(20%) / 12.4(31%)
2.	36-55	10 / 12	8 / 11	9 / 13	7 / 12	9 / 13	8.6(22%) / 12.2(31%)
3.	56-75	10 / 13	7 / 10	8 / 13	7 / 10	7 / 10	6.8(17%) / 11.2(28%)

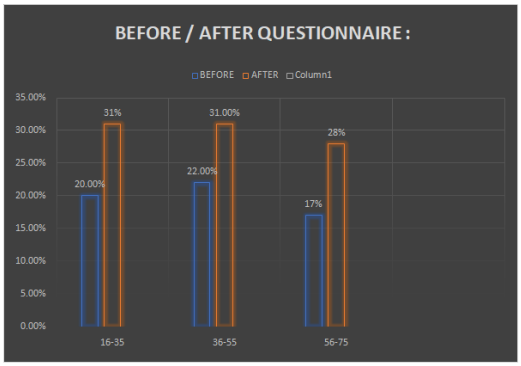

Fig. 2. Before Questionnaire /After Questionnaire of 40 farmer.

Family Composition. The survey was conducted according to that most of the respondents belong to the General category i.e., 99% from all selected villages. Though other categories are also existing in these villages but most of them are not landlords or farmers. They were engaged in some other occupations. Most of the farmers are of the general category. All them have pucca houses, none of the farmers have kaccha or even semi kaccha houses. In the Table 5 along with Fig. 5, we have represented the type of family. Most of them live in joint families 35%, and only 65% of farmers live in nuclear families.

Table 3: Depicts Family Composition.

Sr. No.	PARAMETERS	MARAULI KHURAD n=12	RATTANGARH n=8	RAMGARH MANDA n=8	BADWALI n=6	MARAULI KALAN n=6	OVERALL n=40
1	Nuclear	7	6	4	5	4	26(65%)
2	Joint	5	2	4	1	2	14(35%)

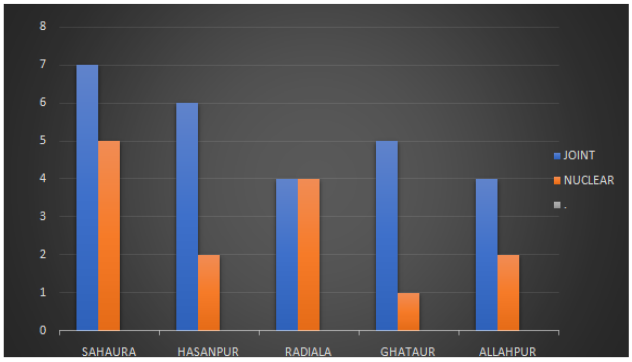

Fig. 3. Depicts Family Composition.

Gain in knowledge level of farmers after watching rice management video : Data given in Table 6 shows that gain in knowledge regarding soil testing after watching the videos.

Before and after watching the rice management video, the knowledge level of farmers experienced a notable gain, reflecting the effectiveness of visual learning tools in agricultural education. Prior to viewing the video, many farmers exhibited limited understanding of integrated disease management practices, struggled with identifying common rice diseases, and lacked familiarity with preventive measures. However, post-screening assessments revealed a significant enhancement in farmers' comprehension of disease symptoms, causal factors, and appropriate management strategies. The video served as a catalyst for knowledge acquisition, enabling farmers to make informed decisions and adopt proactive approaches towards disease prevention and mitigation in rice cultivation. Moreover, the interactive nature of the video facilitated peer-to-peer learning and knowledge-sharing within the farming community, fostering a culture of collaboration and collective problem-solving. By bridging the gap between scientific expertise and grassroots practices, the video empowered farmers with practical insights and confidence to address agronomic challenges effectively, thereby contributing to the resilience and sustainability of agricultural livelihoods in rural communities.

Table 4: Distribution of respondents according to gain in knowledge regarding watching soil testing video (n=40).

Statements (Recommended practices)	Before (n=40)	After (n=40)
Which resistant variety is used and the management of Blast disease of rice ? (Tikkana)	23 (57.5%)	36 (90%)
At nursery stage which chemical is used for treatment ? (Edifenphos)	18 (45%)	35 (87.5%)
Which bioagent is used for the seed treatment ? (Trichoderma)	28 (70%)	37 (92.5%)
Crop rotation is used for management in which disease ? (Brown spot)	28 (70%)	37 (92.5%)
Which out of the following is a non- lodging variety ? (Basmati 370)	31 (77.5%)	40 (100%)
Deep ploughing is practised in the management of which disease ? (Stem rot)	25 (62.5%)	31 (77.5%)
Which chemical is used at panicle emergence stage ? (Copper oxychloride)	23 (57.5%)	29 (72.5%)
Pseudomonas fluorescens is applicated in soil after how many days of transplanting ?(30)	29 (72.5%)	39 (97.5%)
In management of which disease soil is allowed to dry? (Stem rot)	24 (60%)	29 (72.5%)
Which chemical is used in soil application of Sheath rot ? (Gypsum)	28 (70%)	33 (82.5%)
Which of the following is disease of rice ? (All of the above)	25 (62.5%)	40 (100%)
Which of the following are disease tolerant varieties of rice ? (All of the above)	28 (70%)	35 (87.5%)
Nitrogenous fertilizers are used as management I which disease ? (Brown spot)	25 (62.5%)	32 (80%)
Does spacing of crops helps in management of disease ? (yes)	38 (95%)	40 (100%)
Mean	9.8	12.25
Mean %	70	88
SD	1.23	1.24
% Change	18	

CONCLUSIONS

The survey conducted among farmers in Punjab to enhance knowledge about rice diseases has provided invaluable insights into the prevailing conditions, awareness levels, and potential interventions necessary to mitigate the impact of these diseases. The findings underscore the significance of proactive measures to address the challenges posed by rice diseases, which significantly affect agricultural productivity and livelihoods in the region. The survey revealed a varied level of knowledge among farmers regarding rice diseases, highlighting both areas of strength and areas needing improvement. While some farmers demonstrated a good understanding of common rice diseases and their management strategies, others exhibited gaps in awareness, particularly regarding emerging or less prevalent diseases. This indicates the need for targeted educational programs and outreach initiatives tailored to the specific needs and knowledge gaps of different farmer groups. Furthermore, the survey identified key factors influencing farmers' ability to manage rice diseases effectively, including access to information, resources, and support networks. Strengthening extension services, promoting the adoption of integrated pest management practices, and facilitating access to disease-resistant rice varieties emerged as potential strategies to enhance farmers' capacity to cope with rice diseases sustainably. Collaborative efforts involving farmers, agricultural extension services, researchers, and policymakers are essential to foster knowledge exchange, facilitate technology transfer, and promote sustainable agricultural practices that mitigate the impact of rice diseases while ensuring food security and rural livelihoods in Punjab. Moving forward, it is imperative to continue monitoring disease dynamics, conducting research on emerging threats, and evaluating the effectiveness of interventions to adapt strategies in response to evolving challenges. By fostering a culture of knowledge sharing and innovation, stakeholders can work together to build resilience and promote sustainable agricultural development in Punjab's rice farming communities.

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