



Challenges in Accessing Agricultural Technology Information Centre's Services: Identifying Key Constraints in Kanpur District

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aim: The current study aims to find out various constraints faced by the respondents in availing the services provided by ATIC and to suggest suitable measures to overcome the constraints.

Study Design: The study was carried out by descriptive type of survey method.

Place and Duration of Study: The present investigation was undertaken in Agricultural Technology Information Centre in Kanpur region of Uttar Pradesh, between June 2023 and July 2024.

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Methodology: The study employed a descriptive survey method with random and purposive sampling. Particularly Kanpur district of Uttar Pradesh, was chosen due to the investigator's familiarity with the region. One Agricultural Technology Information Center (ATIC) at Chandra Shekhar Azad University of Agriculture and Technology was selected for analysis. Data were evaluated using percentages, weighted means, and rankings.

Results: The infrastructure issue of "Insufficient facilities for farmers" was reported as being significant. Additionally, the extension problem of "Limited availability of free literature for farmers" and the administrative problem of "Delayed evaluation of training provided" were also identified as being of considerable concern.

Conclusion: Respondents identified inadequate infrastructure and lack of free literature as key constraints, with delayed training evaluations being a major administrative issue. They recommended timely budgets, full-time staff for ATICs, and increased involvement from top officials.

Keywords: Administrative; ATIC; constraints; evaluation; infrastructure.

1. INTRODUCTION

Agricultural Technology Information Centres (ATICs) play a pivotal role in the dissemination of agricultural innovations, knowledge, and technologies to farmers. Established under various national agricultural projects, ATICs aim to bridge the gap between research institutions and rural farming communities, enhancing agricultural productivity and sustainability. These centres provide critical support through advisory services, training programs, and access to the latest technological advancements. Despite their significant contributions, ATICs face numerous constraints that hinder their effectiveness and accessibility. These constraints often include inadequate infrastructure, limited resources, and insufficient outreach capabilities. Farmers may encounter barriers such as lack of awareness, inadequate training, and difficulties in accessing timely and relevant information. Socioeconomic factors such as income disparities, educational limitations, and regional disparities further exacerbate these challenges, impacting the overall efficiency of ATICs. Addressing these constraints is essential for improving the performance of ATICs and ensuring that they can fulfill their mandate effectively. By identifying and analyzing the key obstacles faced by both the centres and their users, targeted strategies can be developed to enhance service delivery and better support the agricultural community. This study aims to explore the various constraints experienced by Agricultural Technology Information Centres, focusing on their impact on service accessibility and effectiveness. Through a detailed analysis, the study seeks to offer insights and recommendations for overcoming these challenges, thereby improving the overall impact of ATICs on agricultural development. [1,2].

2. REVIEW OF LITERATURE

Dhanraj [3] stated that among the constraints related to diagnostic services the constraint "Improper and inadequate services of soil and water testing" was the most severely perceived by the ATIC beneficiary farmers, whereas the constraint "Unavailability of concerned scientists for diagnostic services" was least severely perceived by the ATIC beneficiary farmers.

M.B. Tengli and O.P. Sharma [4] examined that the constraint "Inadequate supply of quality inputs in time", "Lack of effective marketing system", "Complicated procedure to obtain crop loan", "Price fluctuation", "Inadequate irrigation facility", "Non availability of technical knowledge" and "Less number of demonstrations" were faced by 76.00 per cent, 74.00 per cent, 69.00 per cent, 67.00 per cent, 57.00 per cent, 55.00 per cent and 46.00 per cent of the respondent.

Swati U J., et. al. [5] reported that important expectations made by the visitors were, 'information on various Government schemes be given' (20.18 per cent), 'farmers rallies at each tahsil be arranged' (17.43 per cent), 'free of cost leaflets, pamphlets and booklets be made available' (15.60 per cent) and 'CD's of agricultural information be made available' (11.00 per cent). It also indicates their desire to acquire more knowledge in agriculture.

C. Dutta, et al. [6] stated that most of the respondents were not aware about all the services and facilities provided by ATIC. Thus, there arises a need to create awareness about ATIC among the farmers. More numbers of good quality research products should be made available directly in ATIC as most of the farmers go to ATIC for purchasing the products.

Popularization and efficient working of the helpline service should be there so that the problems faced by the farmers can be solved directly. More numbers of models and specimen should be displayed in ATIC to increase its efficiency. It was observed from the study that very less number of the respondents had gone to ATIC regarding queries related to small farm implements and agricultural equipment.

3. RESEARCH METHODOLOGY

In conducting the present study entitled "Challenges in Accessing Agricultural Technology Information Centre's Services: Identifying Key Constraints in Kanpur District", the various research procedures and research methods were applied and statistical tools were used. The study used a descriptive survey method, employing both random and purposive sampling techniques. Uttar Pradesh was specifically chosen for this research because the investigator is familiar with the state and has limited time and resources. Within Uttar Pradesh, the Kanpur district was selected for further focus. Currently, there are about 44 Agricultural Technology Information Centers (ATICs) operating under the National Agricultural Technology Project (NATP) in India. From this total, one ATIC was selected, located at Chandra Shekhar Azad University of Agriculture and Technology in the Kanpur Nagar district. The collected data were evaluated, classified and tabulated in the form of percentage, weighted mean and rank.

4. DEMOGRAPHIC PROFILE

Majority of the respondents in the study area had belonged to middle age group and were belonged to male category. The most of the respondents were educated to intermediate level and belonged to general category. Most of the respondents were Hindu from religion and were staying in nuclear family with a family size of up to 5 members. Staying in pucca houses was prominent between the respondents with having

agriculture + dairy as their main occupation. Most of the respondents were under the Rs. 70,760/- to 2,89,600/- annual income group and had their land holding size between 2 ha to 4 ha. Majority of the respondents were not the member of any organization and had medium level of material possession. These findings are in similarity to the findings of M. Khan [7], M. Pandey [8] & P. Thippannanavar [9].

5. RESULTS AND DISCUSSION

The result shown in the Table 1 gives the brief information regarding the infrastructure constraints faced by respondents in availing the services provided by ATIC.

According to the Table 1, majority of respondents felt that there was lack of infrastructure facilities for farmers due to which they found that it hinders their ability to make informed decisions and optimize their farming practices. The constraint was observed as the most crucial one with the mean score of 2.673.

Majority of respondents expressed that most of the time phone line is engaged due to a smaller number of telephones. Therefore, this was also reported as one of the major constraints and ranked second with the mean score of 2.560.

The third major constraint, as expressed by the respondents was that there was no well-maintained cafeteria. As the respondents come from different villages which are far from the centre they wanted to have a well-developed cafeteria for proper feeding. The mean score was computed as 2.450 stating the fact that there is a need of well-developed cafeteria.

Other major constraints, in rank order include, 'No drinking water and water use for toilet purpose' and 'Most of the time electricity facilities are not found' with the mean score 2.123 and 2.023 respectively.

Table 1. Infrastructure Constraints faced by respondents in availing the services provided by ATIC. n=300

S. No.	Constraints	Symbols	Mean Value	Rank
1.	Lack of infrastructure facilities for farmers.	A	2.673	I
2.	Most of the time phone line is engaged due to a smaller number of telephones.	B	2.560	II
3.	Most of the time electricity facilities are not found.	C	2.023	V
4.	No drinking water and water use for toilet purpose.	D	2.123	IV
5.	No well-maintained cafeteria.	E	2.450	III

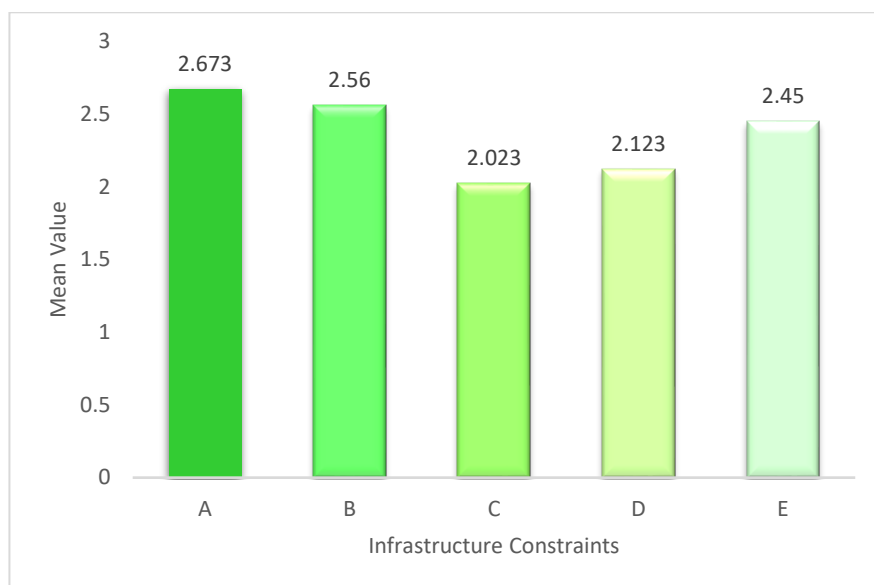


Fig. 1. Infrastructure Constraints faced by respondents in availing the services provided by ATIC

Table 2. Extension Constraints faced by respondents in availing the services provided by ATIC. n=300

S. No.	Constraints	Symbols	Mean Value	Rank
1.	Lack of free of cost literature provided to farmers.	A	2.553	I
2.	Transportation facilities are not provided to the farmers by ATIC for attaining training.	B	2.333	II
3.	Contact time between scientists and farmers is not always matched.	C	1.943	V
4.	Lack of awareness programs regarding innovations.	D	2.160	IV
5.	Lack of audio – visual aids in training programs.	E	2.283	III

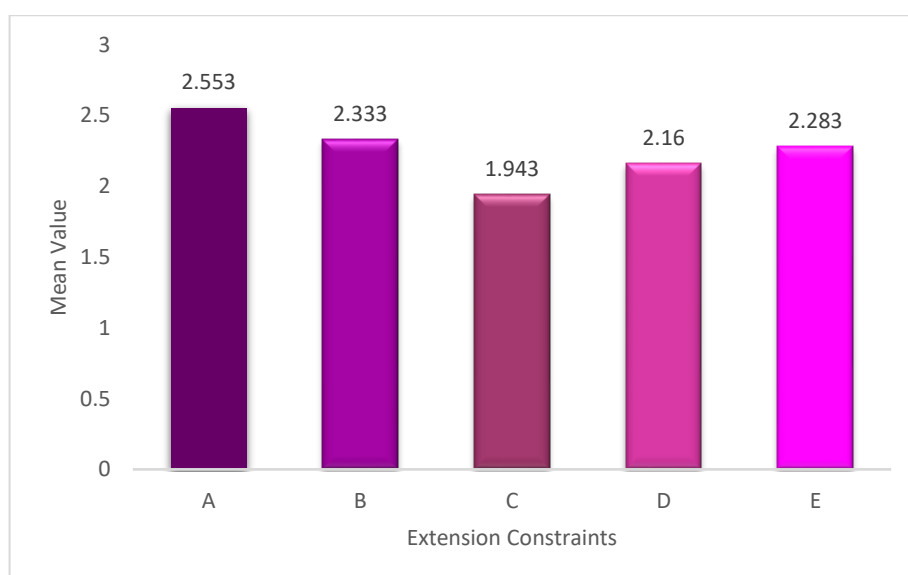


Fig. 2. Extension Constraints faced by respondents in availing the services provided by ATIC

The result shown in the Table 2 gives the brief information regarding the extension constraints faced by respondents in availing the services provided by ATIC.

According to the Table 2, majority of respondents felt that there was Lack of free of cost literature provided to farmers. It is a big constraint for them as without free literature, they have to rely on outdated or traditional methods missing out on advancement which can lead to increase in their efficacy. The constraint was observed as the most crucial one with the mean score of 2.553.

Majority of respondents expressed that Transportation facilities are not provided to the farmers by ATIC for attaining training due to which many farmers are not able to attend the trainings, seminars, workshops etc on time as they lack in having proper transportation

facilities. Therefore, this was also reported as one of the major constraints and ranked second with the mean score of 2.333.

The third major constraint, as expressed by the respondents was that there was lack of audio – visual aids in training programs. The reason for this constraint was that the absence of audio-visual aids led to stagnation in their development. The mean score for the constraint was computed as 2.283.

Other major constraints, in rank order include, 'Lack of awareness programs regarding innovations' and 'Contact time between scientists and farmers is not always matched' with the mean score 2.160 and 1.943 respectively.

These findings were similar to the findings of Swati U. J. [10].

Table 3. Administrative Constraints faced by respondents in availing the services provided by ATIC. n=300

S. No.	Constraints	Symbols	Mean Value	Rank
1.	Lack of timely evaluation of training provided.	A	2.443	I
2.	Lack of scientist's visit.	B	2.010	V
3.	Farmers opinions are not listened properly by ATIC scientists.	C	2.140	IV
4.	Less number of trainings organized.	D	2.170	II
5.	Lack of coordination in officials.	E	2.167	III

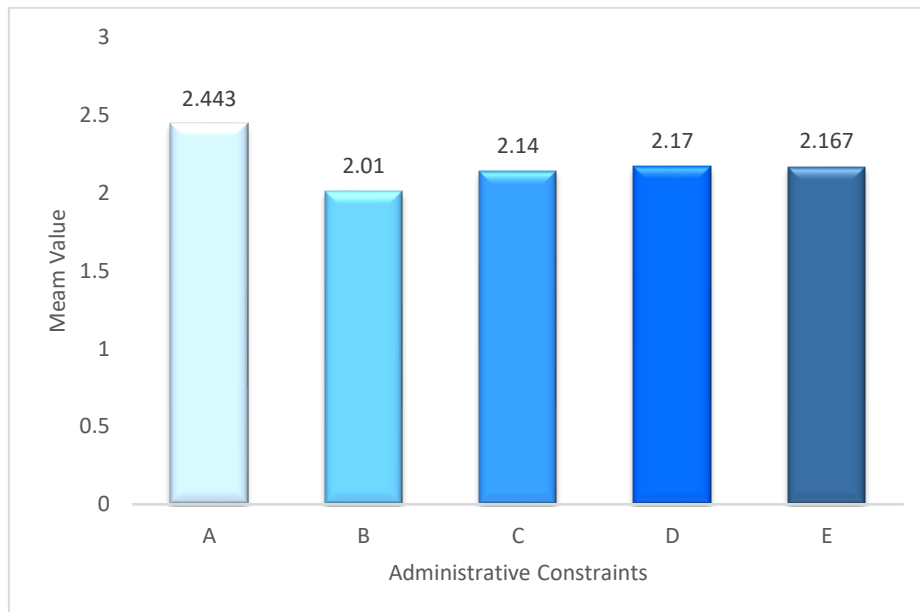


Fig. 3. Administrative Constraints faced by respondents in availing the services provided by ATIC

The result shown in the Table 3 gives the brief information regarding the administrative constraints faced by respondents in availing the services provided by ATIC.

As per the Table 3, majority of respondents felt that there was Lack of timely evaluation of training provided because without timely evaluation, it is challenging to assess the impact and effectiveness of training sessions. The constraint was observed as the most crucial one with the mean score of 2.443.

Majority of respondents expressed that there was less number of trainings organized as according to them lesser number of training means lesser number of opportunities to them. Therefore, this was also reported as one of the major constraints and ranked second with the mean score of 2.170.

The third major constraint, as expressed by the respondents was that there was Lack of coordination in officials as it may lead to fragmented delivery of service to farmers. The mean score for the constraint was computed as 2.167.

Other major constraints, in rank order include, 'Farmers opinions are not listened properly by ATIC scientists' and 'Lack of scientist's visit' with the mean score 2.140 and 2.010 respectively.

These findings were partially in line with the findings of Pandey PR et.al. [11] & Haneef R. et al. [12].

6. CONCLUSION AND RECOMMENDATIONS

The findings of the research states that majority of respondents felt that there was lack of infrastructure facilities for farmers which was their main infrastructure constraint whereas lack of free of cost literature provided to farmers was a major extension constraint for them. Lack of timely evaluation of training provided to them was a major administrative constraint for the respondents. Findings also stated that respondents wanted that an adequate budget should be provided timely to them and a full-time staff for running the ATIC effectively in their suggestions. They also suggested that the top-level officials should take part in motivating both farmers and scientists.

- **Broadband Internet Access:** Ensure reliable high-speed internet to facilitate

online training, webinars, and access to agricultural databases.

- **Mobile Connectivity:** Strengthen mobile networks in rural areas to reach farmers with information via SMS or apps.
- **Dedicated Training Rooms:** Set up spaces equipped with multimedia tools for workshops and demonstrations.
- **Field Demonstration Areas:** Develop outdoor spaces for hands-on training with agricultural technologies.
- **Capacity Building:** Provide regular training for staff to keep them updated on the latest agricultural technologies and information dissemination techniques.
- **Impact Assessment Tools:** Develop systems to measure the effectiveness of programs and technologies in improving agricultural practices.

7. SUGGESTIONS FOR FUTURE RESEARCH

1. As the present study was carried out in only 1 ATIC due to limited time and resource constraints, it is suggested to undertake similar studies in other ATICs as well so that one can generalize with all the ATICs more.
2. A study could be done for identifying the barriers and challenges of ATICs encounter in proper management while reaching and effectively serving rural farmers.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that No generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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