

Researches in Extension Education- A Content Analysis (B.H.U.)

काशी हिन्दू
विश्वविद्यालय



BANARAS HINDU
UNIVERSITY

THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF DEGREE OF

Master of Science (Agriculture)

in

Extension Education

Supervisor

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Submitted by

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CERTIFICATE

To,

The Registrar (Academic)
Banaras Hindu University,
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Through: The Head, Department of Extension Education, Institute of Agricultural Sciences, B.H.U, Varanasi.

Dear Sir,

I have great pleasure in forwarding the thesis entitled “**Researches in Extension Education- A Content Analysis (B.H.U.)**” submitted by **Tripta Chaurasia, I.D. No. 19412EXE016, Enrollment No. 362753** in partial fulfillment of the requirements for the degree of **Master of Science (Agriculture)** in **Extension Education**, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi (U.P.) and placing on record that she has completed the requisite residential requirements as contained in the statutes of the university.

I certify that the entire scheme of investigation presented herein was planned and carried out solely by the candidate under my guidance and supervision. The data presented in thesis, to the best of my knowledge and belief, are genuine and original.

Thanking you,

Yours faithfully,

Forwarded by

(Kalyan Ghadei)
Supervisor

Head of Department

**A Study on Research in Extension Education – A Content Analysis
(B.H.U.)**



By
Tripta Chaurasia

THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
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Date:

Place: Varanasi

(Tripta Chaurasia)

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INTRODUCTION

Agriculture is India's most diverse sector, and it is critical to the country's socioeconomic base. However, because of insufficient food grain production to support such a huge population, our population is fast rising and posing the greatest threat to development.

In order to maximize production while working with limited resources, this situation needs in-depth training in the most up-to-date agricultural technologies and advances.

India's current agricultural plan demands for the rapid dissemination of agricultural information and technological knowledge to the rural people in order to boost productivity and production. Effective communication is essential for Agricultural progress. How well a new technology is presented to farmers in a timely manner determines how widely it is accepted by farmers.

Indian agriculture was in a miserable state at the time of independence. After independence, the Govt. of India, on the pattern of the Govt. of the U.S.A., introduced **55 Community Development** Projects on October 2nd, 1952, to raise agricultural production, improve village communication, primary education, and public health. Because of limited financial and technical manpower in community development projects, the **National Extension Service** was established on October 2nd, 1953. After **C.D. and N.E.S.**, it was realized that people's participation was not coming forth. So, in order to promote local leadership and enable local people to take up planning and implementation, in the year 1958, the **Panchayati Raj** was started as recommended by the Balwant Rai Mehta Committee to respect the needs and aspirations of local people. The first agricultural university, the "**Govind Ballabh Pant University of Agricultural Sciences and Technology at Pantnagar (U.P.)**", was established in 1960 to educate the farmers and youth to pursue development in agriculture. The green revolution, which was coined in 1968, was one of the biggest

success stories in India to convert us from "begging bowl" status to that of self-sufficiency. After the green revolution, India became self-sufficient in food grain production. With the aim of transforming the social and economic lives of villages and bringing desirable changes in social life, various schemes of socioeconomic development have started. Similarly, **Krishi Vigyan Kendras (KVKs)** were organized in 1974 to impart training to in-service personnel in agriculture with the aim of improving and expanding agriculture extension services to a large number of farmers. Then various extension systems, i.e., **Training and Visit (T & V)** in 1979, **Institution Village Linkage Programme (IVLP)** in 1994, National Agricultural Technology Project (NATP) in 1998, **Agricultural Technology Management Agency (ATMA)** under NATP in 24 pilot districts, were initiated for the proper transfer of technology. The **NAIP** was launched successfully on July 26, 2006 by **Shri Sharad Pawar**, Union Minister for Agriculture, to facilitate an accelerated and sustainable transformation of Indian agriculture so that it can support poverty alleviation and income generation through the collaborative development and application of agricultural innovations by public organizations in partnership with farmers' groups, the private sector, and other stakeholders.

Low absolute incomes, as well as a widening and deteriorating income discrepancy between farmers and non-agricultural workers, were major factors in the formation of agrarian distress in the country during the 1990s, which became extremely significant in certain years. Between 1995 and 2004, the country saw a substantial increase in the number of farmer suicides, with losses from farming, shocks in farm revenue, and poor farm income cited as key reasons. Low and volatile farm revenue is reducing interest in farming and farm investments, as well as compelling more and more cultivators, particularly those in their younger age groups, to abandon the industry. This could have a major negative impact on the country's agricultural future.

It is clear that a farmer's income from agriculture is critical in addressing agricultural distress and promoting farmer wellbeing (Chand 2016). In this context, the goal of doubling farmers' income by 2022–23 is critical for improving farmer

welfare, reducing agrarian distress, and achieving income parity between farmers and non-agricultural workers.

The Concept and Timeframe

It is critical to have clarity on the following areas in order to estimate the farmers' ability to double their revenue. The following are the main points:

1. What is the period and targeted year for doubling the farm income;
2. What is to be doubled, is it output, value added or income earned by farmers from agricultural activities;
3. Whether nominal income is to be doubled or real income is to be doubled; and
4. Whether the targeted income includes only income derived from agricultural activities or would it also include income of farmers from other sources.

All this could be possible only through the sincere work of different agencies with the Agricultural Extension mechanism.

According to **Leagans (1961)**, "Extension Education" is an applied behavioral science, the knowledge of which is applied to bring about desirable changes in the behavioral complex of human beings usually through various strategies & programmes of change & by applying the latest scientific & technological innovations. It is a catalyst in the field of development education and an imperative for all universities and other allied institutions, whether technological, agricultural, liberal or conventionally oriented.

Extension Research

Students pursuing M.Sc. or Ph.D. degrees do the majority of Extension Education research. According to studies, scholar's theses in Extension Education have a strong emphasis on programme planning, diffusion, and adoption, as well as communication methods and media (**Jhamtani and Singh, 1980**).

In the Department of Extension Education of the Institute of Agricultural Sciences, **B.H.U.**, the **M.Sc. (Ag.) Course** and the **Ph.D. (Ag) programme** through Course work started in 1975-76 and 1984-85, respectively.

Department of Extension Education, BHU is dedicated to educating students for careers in agriculture, including formal and non-formal teaching and learning, leading agricultural organizations and communities, and conveying agriculture to the general public.

Graduates of agricultural sciences also meet industry standards for employment after graduation. Furthermore, this degree programme is designed to prepare undergraduates for graduate and professional programmes, as well as to flourish in them.

In the Department, post-graduate and Ph.D. degrees are based on a personal interaction between the student and the advisor. Completing a degree in Extension Education at BHU positions you as a well-prepared professional in the academic, research and job market.

Content Analysis

Extension Education uses a content analysis technique to provide a comprehensive picture of the material. It aids in the classification and structuring of unstructured data, as well as giving them a scientific form. It aids in the analysis of patterns and changes that occurred during a specific time period.

Barelson (1952) Content analysis is defined as a research technique for the objective, systematic and quantitative description of the manifest of communication.

Barcus (1959) defined content analysis as a term to mean the scientific analysis of communication messages. The method is known as the "Scientific Method," and it is catholic in nature, but it requires methodical and extensive investigation.

Krippendorff (1980) defined content analysis as a research technique for making technique for making replicable and valid inferences from data to their context.

Importance of the Study

A periodic review of the research conducted in any field of study is beneficial for getting insights into the general direction of research and determining future needs in the context of a changing perspective of specific discipline. The research will aid in determining the direction in which extension communication research is moving.

Findings of the research may have higher implications for determining what types of research are being conducted and the methodology used. It may also provide a complete report on the researches conducted as well as recommendations for new researchers in the future.

In 1955, Bihar Agricultural College began the first master's programme in Extension Education, which was followed by Jabalpur Agriculture College in 1957. Since then, the majority of agricultural colleges have established post-graduate programmes in the field of extension education. In 1958, IARI was the first to offer a PhD degree in extension education. As a discipline, extension education has a comparatively brief history. It had to struggle hard for its survival and recognition as a science and a postgraduate study throughout this time. In a few universities, post-graduate extension programmes were even stopped for a period.

The quality of this subject was negatively impacted by its quick proliferation to satisfy the expanding demands of teaching departments of agricultural schools that increased significantly in the 1950s and 1960s. "When course outline and teaching quality became a topic of concern, the subject had not yet planted its roots on a solid foundation. A seminar was held at IARI in 1967 to establish a model syllabus for undergraduate courses. At the time, nothing major was done in the area of post-graduate education "(**Singh, 1981**).

Statement of the Problem

The preceding explanation emphasizes the importance of content analysis and its goals in determining responses to our research questions. An extension researcher must know what to research in order to be effective. To put it another way, having technical understanding in subject-matter fields is not enough; also needs a strong research topic to conduct research successfully. As a result, the entire study provides a heuristic view of the applicability of content analysis in field situations. To further explore the subject the study, entitled '**Researches in Extension Education- A Content Analysis (B.H.U.)**' was undertaken.

Researchable Questions

In light of this, a number of topics have been suggested in order to provide satisfactory solutions to the question, including:

1. What are the trends of research in Department of Extension Education?
2. What are the research designs, locale, sampling procedure and sample sizes taken in thesis?
3. What is the nature of respondents, variables, tools of data collection and statistics used in thesis of Extension Education?
4. What are the limitations mentioned in the theses of the study?

Objectives

The objectives of the proposed study are:

1. To analyze the trends of research in Department of Extension Education.
2. To study the research designs, locale, sampling procedure and sample sizes taken in theses.
3. To document about the nature of respondents, variables, tools of data collection and statistics used in theses.
4. To record limitations of previous theses.

Limitations of the Research

1. Because of the limited domains of the study, the results cannot be generalized to other areas of the country.
2. The research was limited to **127 post-graduate** and **37 doctoral theses** from **2010 to 2020** (M.Sc. and Ph.D. theses), therefore the findings cannot be generalized the basis of the limited scope of research study.
3. If the data were compared to other theses classify at similar universities, the analysis could have gone into more depth. However, due to a lack of time, the research was limited to a single university (B.H.U.).

Presentation of Thesis

There are **five chapters** in the thesis.

The **First chapter, *Introduction***, covers the problem statement, objectives, scope of study, and study limitations.

Second chapter, the *Review of Literature* provides a brief overview of previous studies in the field of research as well as research technique for theses.

Third chapter describes the *Research Methodology* used in the study, which includes the research location, data collection tools, data analysis, and operationalization of terminology and concepts.

Fourth chapter presents the *Results and Discussion* investigates the study's findings.

Fifth chapter includes *Summary and Conclusion* is followed by a list of references. The Appendices are located at the conclusion of the book.



REVIEW OF LITERATURE

A complete review of literature is an integral part of any analysis, as it not only gives knowledge about the work done in the past and helps in description of constraint area and also gives basis of explanation and discussion of discovery.

A review of the existing literature useful to the study area assist the researcher to outline the theoretical frame of the study and also access the nature and measure of studies already undertaken in that specific area of research. The review of literature has been presented under the following headings

- 2.1 The area and trends of research in Department of Extension Education.
- 2.2 The research designs, locale, sampling procedures and sample sizes taken in the theses.
- 2.3 To document the nature of respondents, variables, tools of data collection and statistics used in theses.
- 2.4 To record limitations of previous theses.

2.1 The area and trends of research in Department of Extension Education

Singh et al. (1972) stated that from the 239 extension theses up to 1972, 15.6 % were on Agricultural Communication.

Jhamtani and Singh (1980) found in degree researches in extension during the time of 1972-78, the 16.4 % theses were directed With regard to Agricultural Communication.

Rogers and Staff (1983) Observedthat the area of research in communication during the 1st World War were linked to information, publication, public links and media intended audience exposure, whereas at the time of World War second, the

prominence was on the growth of electronics and knowledge theories, laboratory intended research, survey research and field experiments. After sometimes mass media became famous.

Out of these 3 significant areas of Extension research which have been covered to a huge extent were found in the Adoption and Diffusion (19.71 %), methods of Extension (16.49 %) and communication (13.48 %).

These major fields together appointed approx half per cent (50.00 %) of the total number of Articles released in the journal. The fields which were the lowest showed, in form of articles, were change of social (2.21 %), special groups (3.01 %), farmers' training (3.01 %), leadership and group dynamics (3.21%), rural institution (3.21 %) and development of youth (3.21 %).

The style in reporting of the different topics of research over a span of time was not continuing in all the topics. There was an expanding style in the no. of articles released from 1965-1981 in respect of the 3 topics having communication, rural institutions and special groups. In against to this, a reducing trend was observed in certain field such as planning of programmers, training of extension people, development of youth etc.

Siddaramaiah and Raghavendra (1983) reported that content analysis of IJEE that out of 497 articles released in the interim year 1965-1981, the Utmost area of research counted were fourteen carrying Adoption and Diffusion, Extension Administration, Agricultural education, Communication, Extension methods, Leadership, group dynamics, planning of programmes, Research techniques and methods, Special group, Social change, Rural institutions, Training of extension people, farmers' training, and development of youth.

Shanmugam (1984) stated the schematic categorization of types of communication as major and minor. Under the major categorization multidisciplinary researches, media studies and studies on communication activity were included while

minor categorization included various subjects and details of media and communication activity.

Singh (1985) observed that during 1960s and 1970s a no. of researches were conducted in the area of inter-personal communication but not afterward.

Singh (1986) reported in many sources of communication, various channels were used in many studies viz. in Institutional sources extension services, VLW, extension people, agricultural colleges, universities, banks, etc. ; Media sources- television, radio, film, exhibitions, demonstrations, pamphlet, bulletins, print materials, fairs, etc. ; and Non-institutional services- web of words, key communicators (neighbors, family members and friends).

Sujan (1986) stated that the analysis of 15 research studies organized during 1983-1985 in Uttarakhand that four researches were organized on NAEP programme followed by three researches on Radio listening. 2 researches each were executed on communication profile, documentary film and communication behavior. The fields such as farm magazine and communication gap were also taken (1 study each).

Trikha (1986) observed that the 50 research studies organized during 1961-85 on Agricultural Journalism, maximum researches were on content analysis of newspaper and magazine (56 %) followed by readability (35 %), evaluator (5 %) and production of publications (4 %).

Khot and Sawant (1986) stated that a study in farm print media in India is “Reader System Oriented”. Mostly the studies were concentrated on contents, quality, readability pattern, etc. some researchers were on the farm literature (Production System).

Jain and Babu (1987) stated that out of 160 papers issued in IJEE, the highest number (75) were in the period of 1975-1984 and the fields of research covered are such as Multimedia-23, Mass communication (Radio)-22, Farm journalism-19, information sources-16, Television- 16, Audio-visual aids-14, Interpersonal communication-10, Group contacts- 9, Source credibility-8, Communication skills-8,

Communication behavior of extension personnel-8 and Communication behavior of farmers-7.

Biswas and Ghadei (2009) said that a rising trends of the research works regulated since 1977 in the Department in BHU, Varanasi till 1982 to 1986 whereas a reducing trend is found till 1992 to 1996. However, again a rising trends is found from 1997-2001 to 2002-2006.

He also observed that maximum of the studies were carried out in Uttar Pradesh (71.68 %) followed by Bihar (8.67%). There were 6.36 % of the researches which did not give any information about the locale where the research works were conducted.

Most of the research was conducted in the area of extension methods and communication studies (31.79 percent), followed by (30.06 percent) in social and psychological dimensions, (23.70 percent) in adoption and diffusion, (12.72 percent) in developmental projects/programs, (10.98 percent) in gender, youth, and children studies, (10.41 percent) in human resource management, and (8.09 percent) in both environmental studies and extension administration etc.

Singh (2008) in his research “Pioneer Research in Extension Education”, declare about the field of extension education researches that out of 240 Masters of sciences (Ag.) researches regulated over a period of five decades (1957-2006) in the Agricultural College of Bihar, Sabour, the maximum number of theses (28.75%) were taken out in Behavioral and Socio-psychological domain followed by the field of Diffusion and adoption of agricultural innovations (26.67%), and second was Agricultural administration and management (17.92%). The field associated with the farmers’ training and extension people achieved the next place (16.25%) go along with Agricultural communication and method of extension teaching (14.17%). A relatively satisfactory no. of theses (14.17%) was bringing out picking the miscellaneous constraints obtaining to Agricultural and rural With respect to style of submission development process.

He disclosed that the higher numbers (28.75%) of the theses were submitted during the span of time from 1967-1976 stick to the last decade (1977-2006) of the direction (24.58%). During the other 3 decades, the numbers of theses were higher or least the same.

Singh and Sharma while learning the researches in Agricultural Extension in IARI, New Delhi, found that in 309 PG theses, 11 research topics were taken for the analysis holding methods of Extension and techniques (7.77%), Extension administration and organizational management (10.03%), Human resource development (8.41%), Communication (20.39%), Social and group dynamics (8.74%), Rural women, youth and children (4.21%), Research and institutes of education (3.88%), Adoption and diffusion (22.65%), Farmers' training programmes (3.88%), Entrepreneurship development (2.27%) and Miscellaneous (7.77%).

Concerning the trend of submission of no. of theses, he disclosed that the higher number (28.75%) of the theses were submitted through the decade from 1967-1976 followed by the last decade (1977-2006) of the discipline (24.58%). During the other three decades, the numbers of theses were more or less the same.

Singh and Ghadei (2010) found that a rising trends of the research regulated since 1977 in the department till 1982 to 1986 whereas a reducing trend is observed till 1992 to 1996. However, again rising trend is found from 1997-2001 to 2002-2006.

He also observed maximum of the studies were taken out in Uttar Pradesh (57.44 %) followed by Andhra Pradesh (10.63 %). There were 6.38 % of the studies which did not give any information about the area where the research work were conducted. Research has been conducted in the areas of content analysis (7.52%), ITK (5.20%), research & educational institutions/organizations (3.47%), agricultural journalism (3.47%), private extension (3.47%), ICT (2.89%), health studies (2.31%), farmer training (1.73%), entrepreneurship development (1.16%), and miscellaneous studies (5.20%).

Gombe, Suandi *et al.*, (2016) found that the two major research approaches, Participatory Action Research in Extension (PARE) and Community Based Research (CBR) were found to be encouraging community members to make good decisions on what they feel is better for their lives. This implies that the methods are very useful, relevant and can considerably increase the community effectiveness with enduring by the researchers' to employ them despite their long-time requirements.

Verma and Ghadei (2017) stated that highest numbers of theses were submitted the 2010 to 2014 (22.34 %) because this may be due to highest number of thesis completed during that time period and lowest numbers of theses completed in the year 1995 to 1999 (5.32 %) because this may be due to minimum number of researches complete during that period. During 1985 to 1994 and 2005 to 2009 the average numbers of theses were submitted.

Mahra, Kumar *et al.*, (2018) Reported that the findings showed that besides traditional areas of extension research new areas like 'ecotourism', 'nutritional security', 'up scaling and out scaling of farm innovations', 'validation of ITK's' and 'climate change adaptation' has been picked up by extension researchers nationwide leaving aside the old notion of transfer of technology.

Rupanand Ansari (2018) found that the content of 2 volumes of Indian research journal of extension education 2014 they found is that maximum researches were on adoption and diffusion, climate change, women empowerment, entrepreneurship etc. so on this references they said that this is the emerging trend of researches in field of agricultural extension and communication. On the bases of this study they suggest some categories of researchable areas in agricultural extension and communication. These are as- Adoption and diffusion of Agricultural Practices, Climate change, Gender issues, Information and communication technology (ICT), Sustainable agriculture, Farm journalism, Communication, Management, Migration of youths, Women empowerment, Youth employment, Extension institutes, Social group dynamics and microfinance/ SHGs etc. These are some areas of emerging research in area of extension education. So research should be conducted on these fields in future.

Sondarva, Nain et al., (2019) reported that with the time, the number of publications has increased. From 2005 to 2010, single issues were issued for two years, following which separate issues were produced for each year from 2011 to 2013, then in 2014, two different issues for a single year were published. In addition, the number of articles published has increased.

The majority of articles published (23 percent) were on adoption-related studies. Because adoption of technology is a primary goal of extension, greater focus was placed on it. Impact analysis studies accounted for 10% of the total, with the goal of determining the impact of various schemes and initiatives that are equally relevant.

2.2 The research designs, locale, sampling procedures and sample sizes taken in the thesis

Berkhofer (1969) reported that case study approach which is highly narrative, impressionistic, subjective and descriptive towards the techniques of the social and behavioral sciences, totally with concepts, theories indicate to test theory, and it is a quantitative technique of research study.

Narula and Pearce (1984) stated that a latest research method has been developed and labeled as contextualizing for studying the interaction-analysis for development. This method studies interaction at various levels of context from larger to smaller contexts of development.

Yadava (1987) found that out of 889 techniques of researches apply in research methodology- studies wise, focus on the IIMC bibliography on mass communication studies during 1975-84 in India, the sample survey was by far the most common research techniques followed.

Ostman (1989) stated that the qualitative research technique count heavily to gather information, which usually is subjective and impressionistic, explain actuality in their own terms. Clarification is narrative. The qualitative researcher will be generalizing the results. It has certain criteria like over confidence, lack of generalization, loose and unsystematic reach. Techniques are participation, case

study, whereas quantitative research techniques need much more hard work in theory. These are deductive and inquiring. It is transformed into numerical value and concentrated on one way communication.

Trikha (1989) reported that most of the researches in the field of agricultural journalism have been focus on the content analysis followed by readability, evaluator and production of publications.

Singh and Gill (1993) revealed on “Review of Adoption Research Studies in IJEE from 1980-1987” that out of 70 researches published under adoption field that 3 to 4 of the researches have used “survey” design and maximum of these studies were “ex-post facto” for the study of existing situation. The next step of research design used was the paired match (20 per cent) in which rural- urban; progressive, non-progressive; innovative households, non innovative households were used as sample of researches. The designs such that case study, action research, etc. were conspicuous by their absence in these studies.

Andhra Pradesh (12.8 per cent). It is found that the higher districts (5) have been covered in Uttar Pradesh. There is no state where all the districts are covered under these researches. It is interesting to note that no research was undertaken in Madhya Pradesh, Assam, Gujarat, and Rajasthan states. Besides India, one study each in Nigeria and Pakistan were conducted.

Concerning the sampling procedures used, they found that multistage sampling procedure was used in almost all the research studies. Under this procedure, 60.00 % studies had adopted random sample method followed by purposive sampling in 14.67 % cases. In about 1/10 of studies reviewed, the researchers did not mention any sampling method. The other sampling methods used were PPS, stratified cluster and incidental methods. In some studies, researchers had used more than one method of sampling.

Mehra and Trikha (1993) observed on content analysis of 48 P.G. theses of 7 years of research from 1983-89 of Extension and Agricultural Communication

conducted at the G.B. Pant University of Agriculture and Technology, Pantnagar that single research technique was used in 75.00 % followed by combination of research methods in 25.00 %.

Singh et al. (2001) stated in “Four Decades of Research in Training: A Critical Analysis” that as regards the type of research design is concerned, a huge majority (81.10 %) of studies were ex-post-facto in nature followed by experimental and both (9.09 %).

Taherdoost (2016) found that the different types of sampling methods were explained. Also the six steps which should be taken to regulate sampling were described. As mentioned, there are 2 forms of sampling strategies, namely, probability sampling and non-probability sampling. Every technique includes different types of methods of sampling. Non-probability Sampling includes Judgment sampling, Snowball sampling, and Convenience sampling, furthermore, Probability Sampling includes Stratified random, Simple random, Cluster sampling, Multi stage sampling and Systematic sampling.

Verma and Ghadei (2017) revealed that majority of the research were carried out in Uttar Pradesh 71.28 per cent followed by Bihar 7.45 per cent. B.H.U. is located in the Uttar Pradesh and it is close nearest to the Bihar state. Students generally want to conduct research in areas close to the institution. As a result, we can see that the most research was done in Uttar Pradesh, followed by Bihar.

Sondarva, Nain et al., (2019) found that the majority (67.68 %) article were on farmers as respondents, whereas (10.00 percent) women who work on the farm. Because the farming community is the primary focus of agricultural development, farmers and farm women together account for 70.00 percent of total publications. However, there is less research on farm women than on male farmers, which should be taken into account for the promotion of gender mainstreaming in agriculture. There were articles on university staff (9.33 percent) and students (6.00 percent), but only 1.33 percent on private extension service providers, indicating that more emphasis on research on private extension is needed because farmers have more contact with them

and to promote para extension services. Only a small amount of attention was paid to rural adolescents (0.67 per cent). Our country's future is in the hands of our youth. Because youth are leaving agriculture, greater attention should be paid to study on rural youth in order to attract and keep them.

2.3 Documentation of the nature of respondents, variables, tools of data collection and statistics used in thesis.

Pausewang (1973) reported that a questionnaire is a research tool to study a rather limited topic within a given social content with qualitative exactness.

Feliciano and Lozare (1974) stated that communication research in rural areas shows a high dependence on or overuse of the survey method, which is less valid and relevant in the rural areas.

Dube (1976) found that a large part of communication research in India as in many other developing countries is much based on foreign models and tools and is so imitative that its validity is open to doubt. New conceptual frameworks and methodological approaches appropriate to Indian conditions are needed for purposeful results.

Sujan (1986) observed in the analysis of 15 research studies organized during 1983-1985 in Uttarakhand that is maximum in numbers (93.33percent) of the respondents were farmers followed by instructors, subscribers, and extension workers (6.67percent each).

Concerning the variables used in the studies, He observed that the maximal number (66.67%) of the studies used the variable Socio-economic-status followed by Knowledge (53.33%). 26.67% of each of the researches used the variables Communication exposure and Mass-media exposure followed by Perceived attributes (20%).

Regarding the tools of data collection, he revealed that the maximal number (73.33%) of the researchers used an interview schedule followed by a combination of

interview schedule and observation (20%). The questionnaire was used in 6.67% of the researches.

Regarding the statistical techniques used, he stated that the maximal number (93.33%) of the researches used percentage followed by t-test (66.67%). 53.33% of studies used mean followed by the coefficient of correlation (33.33%). Analysis of variance was used by 13.33 percent of the studies.

Mehra and Trikha (1993) reported on content analysis of Post-Graduate theses of 7 years of research from 1983 to 1989 of Agricultural Communication and Extension organized at the G.B. Pant University of Agriculture and Technology, Pantnagar that the maximal number of researches (41.67%) were survey type.

The conducted interview schedule was used in the majority (58.33%) followed by a combination of tools to collect the data in 35.42 percent. The highest number of variables ranged up to twenty-five (25).

The most commonly used methods of analysis were percentage (93.75%), followed by mean (52.08%), frequency, and coefficient of correlation (33.33% each).

Singh and Gill (1993) declared that concerning the nature of the respondents on "Review of Adoption Research Studies in IJEE from 1980 to 1987" that 61.43% of studies had taken crop farmers as their respondents and the rest of the studies were conducted on dairy/fish/poultry farmers, farming couples, far leaders and bio-gas adopters.

Regarding the methods of data collection, they found that about two-thirds of the research used an interview schedule as a data collection method. The reason is obvious because about 95 percent of respondents have been rural people who were to be interviewed for fact-finding. The questionnaire was used in 13.69 % of research studies. It is interesting to note that method of data collection had not been mentioned in one-fifth of the research. An observation method has been used in a single study. In some research, more than one method of data collection was used.

Regarding the statistics used, they revealed from the data that the most commonly used analysis techniques from the "method of estimation" group were percentage, multiple regression (R^2), coefficient of correlation (r), mean and standard deviation. Among the "method of testing" group, the t-test was applied in 12 types of research. F-test and Z-test were used in 5 and 3 studies, respectively. In the "non-parametric" statistical group, path analysis and X^2 were used in about 1/5 of the research studies. However, it is wind up in most of the studies, method of estimation; statistical tools of data analysis were used, and followed by non-parametric methods.

Prolima and Kaushik (2000) observed regarding the tools of data collection on content analysis of Home Science Extension Research articles published in IJEE that out of fifty-six issues from 1965 to 1993, the maximal number of research articles (67.6%) used interview schedules for data collection along with Questionnaire method (16.2%), documentation and case method were least used.

Regarding the statistical techniques used, they observed that in maximum research articles (53.5%), percentages were used for the analysis of data followed by Mean (27.9%), Frequency (22.9 %), t-test (19.8%), Coefficient of correlation (22.3%), and Chi-square (16.2%).

Singh et al. (2001) reported in a study "40 years of Research in Training: A Critical Analysis" that farmers were taken as respondents of the researches followed by village level worker (VLW), Majority of the studies (81,80%) used schedules for collecting data from respondents while some (18.18%) employed questionnaires.

Thakur and Trikha (2002) regarding tools of data collection, they revealed that highest number of theses (65.38%) used combination of interview schedule and the questionnaire in the research study followed by interview schedule alone. Only one thesis used observation technique for study.

Regarding the use of variables, they reported that 50.00% of the theses were based on the dependent and independent variables. Large number of theses (30.77%) used variables ranging from 16 to 20 whereas 26.92 % used 5 to 10 variables followed

by 11 to 15 variables (19.23%), 21-25 variables (11.54 per cent), and 26 to 30 variables (3.85%). In 7.69% of the theses, greater than 30 variables were used. The maximum and minimum numbers of variables used were 36 and 8 respectively.

Concerning the statistics used, they conclude that all the theses used percentage (100.00%) while 84.62% of theses used frequency distribution followed by arithmetic mean (57.69%), standard deviation and coefficient of correlation (53.84% each). In 3.85% Ranking, Cumulative frequency distribution, Factor analysis, multiple regressions, Z-test and Chi-square test each were used for analyzing the data.

Biswas and Ghadei (2009) studied that most of the theses (43.93%) took farmers as respondents followed by non-farmer village people (16.76%), school children, city people (3.46% each), university students (6.36 per cent), professional trainees, combination of respondents (2.31% each).

Most of the theses (24.675%) used adoption as one of the dependent variables followed by knowledge (23.33%) and attitude (11.56%).

Large number of theses (57.23%) used interview schedule in the research studies followed by combined use of interview schedule and secondary data (22.54%), questionnaire (5.20%). Maximal number of theses (81.50%) used percentage for analysis of data, while 54.34 % of theses used frequency followed by arithmetic mean (35.84%).

Singh and Ghadei (2010) stated that majority of the theses (42.55%) took farmers as respondents along with combination of respondents (19.14 %), non-farmer village people (8.51 percent), and students of university (4.25 %).

Most of the theses (24.67 %) used adoption as one of the dependent variables followed by knowledge (23.33%) and attitude (11.56 %).

The large number of theses (57.23%) used only interview schedules in the research studies followed by combined use of interview schedules and secondary data (22.54%), questionnaires (5.20%).

A large number of theses (78.72 percent) used percentage for analysis of data, while 57.45 % of theses used frequency followed by multiple correlations (55.32 %), Mean (53.19 %), Correlation Coefficient (51.065) and standard deviation (44.68%).

Adesoji and Tunde (2012) reported that 97.7 percent of extension agents were male, 78.0 percent of the farmers were male, while 65percent of researchers were male. A Majority (64 percent) of the sampled farmers were more than 51 years of age.

He also observed that 76 percent of farmers had contact with extension agents and 87 percent of researchers had contact with extension agents. There was a strong communication linkage between extension agents and researchers, farmers and researchers as well as between farmers and extension agents. Demonstration ($b=0.68$) and informal contacts ($b= 0.37$) were significant communication linkages at $P < 0.05$ between researchers and farmers. Publication in journals ($b=0.55$) was the important communication channel among researchers. The research concluded that a strong linkage exists among researchers, farmers and extension agents.

Limaye et al. (2015) revealed that in his study "Use of internet among Undergraduate students from Mumbai" reported that out of 150 students interviewed 50 percent were female and 50 percent were males. Students were in the age range of 17 to 21 years. From study it shows that 60 percent students used internet for academic work, followed by 20 percent students used it for chatting and making friends, 7 percent students used it for playing games and 13 % students used it for more than one reason.

Verma and Ghadei (2017) stated that most of the thesis 37.23 per cent took farmer of the village followed by University students 23.40 per cent, youth10.64 per cent. Extension Education is limited to rural development by bringing about desired

changes in farmers' attitudes toward adopting new technologies. Farmers are considered the important persons of rural development because they make up the majority of a rural community.

Meena and Wakle (2019) observed that majority of the respondents 72.50 per cent belongs to medium level of knowledge category, however 15.83 per cent respondents belong to low category and 11.67 per cent respondents belongs to the high knowledge level category.



RESEARCH METHODOLOGY

The major goal of this chapter is to go over the numerous methods and procedures used in the selection of the study area, sampling design, respondent selection, study variable selection and empirical measurements, data collection procedures, and statistical methods used in data analysis. The following sections of the chapter have been discussed:

- 3.1 Universe of the Study
- 3.2 About Institute of Agricultural Sciences
- 3.3 Sample and Sampling Procedure
- 3.4 Data Collection Tools and Procedure
- 3.5 Analysis of Data

3.1 Universe of the Study

The research was carried out at the Banaras Hindu University's Institute of Agricultural Sciences in Varanasi, as stated in Chapter- 3.

3.1.1 About Banaras Hindu University

Banaras Hindu University, in the holy city of Varanasi, is a globally renowned temple of learning. **Pandit Madan Mohan Malviya**, a famous nationalist leader, built this creative and original university in 1916 with the help of great individuals like **Dr. Annie Besant**, who saw it as the University of India. The B.H.U. Act 1915, passed by Parliament, established Banaras Hindu University. It was a pivotal figure in India's independence movement and has since grown into the country's most important educational institution.

It has produced many famous freedom warriors and builders of modern India, as well as a vast number of notable scholars, artists, scientists, and technicians who have graced its halls, all of whom have greatly contributed to the nation's progress. The main campus of this prestigious Central University is 1300 acres in size, with well-kept roads, lush flora, a temple, an air strip, and architecturally pleasing buildings. During WWII, the campus's Air Field was established to provide military training for pilots. A new university campus is being built in Barkachha, Mirzapur district, with a 2700-acre footprint.

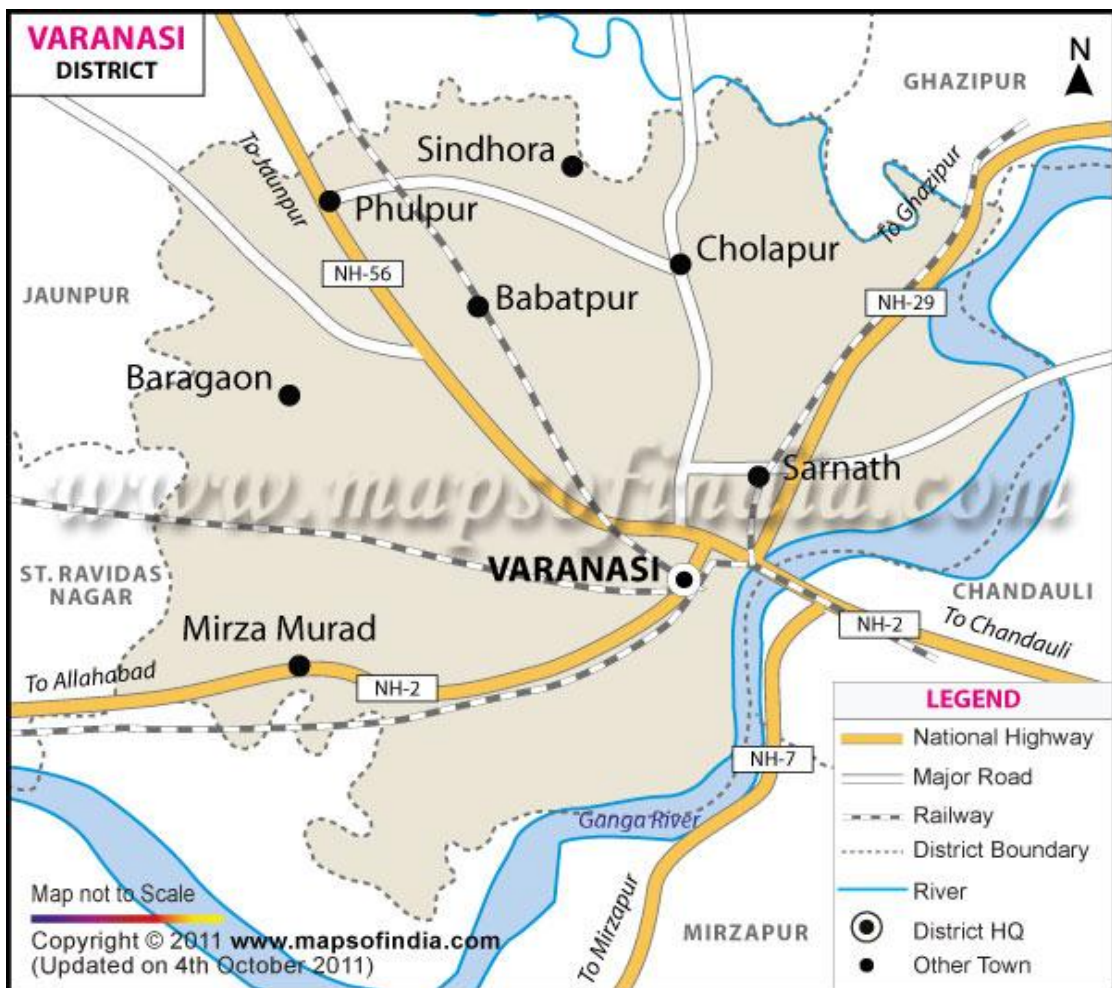


Fig 1: Varanasi District Map

The university has three institutes, fourteen faculties, 140 departments, four inter-discipline centers, a constituent college for women, and three constituent schools that cover a wide range of subjects in the humanities, social science, technology,

medicine, science, fine arts, and performing arts. It has six Advanced Studies Centers, ten Special Assistance Program Departments, and numerous specialized Research Centers. The University is linked with four of the city's degree colleges. About 15000 students from various walks of life, castes, religions, and races, 1700 teachers, and nearly 8000 non-teaching personnel make up the University family. Students from all over the world, including the United States, Europe, Asia, the Middle East, and Africa, come to study here. The institution has assumed a leading position in encouraging new ideas, the spirit of global integration, and intellectual and cultural nurturing. Banaras Hindu University is a microcosm of the entire cosmos.

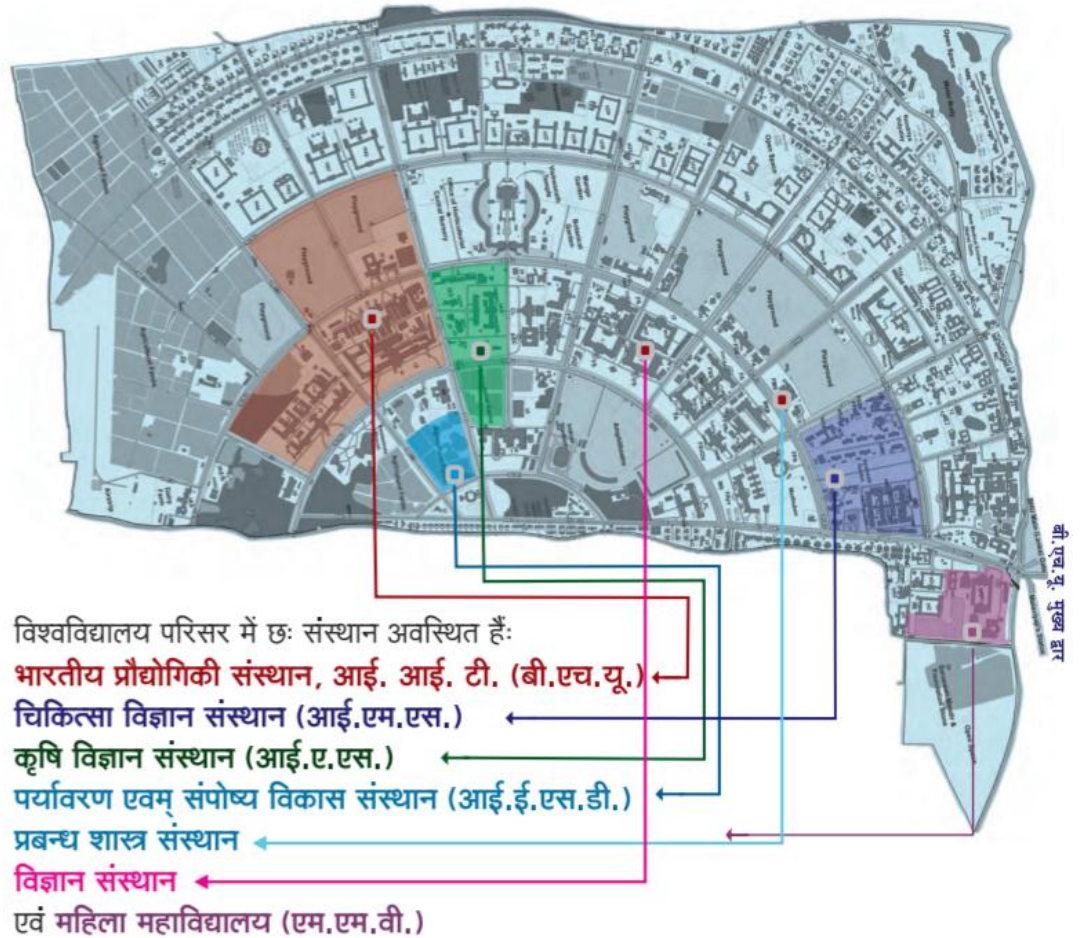


Fig 2: Map of BHU Campus

3.2 Institute of Agricultural Sciences

The Institute of Agricultural Sciences was founded in 1931 as the Institute of Agricultural Research, Banaras Hindu University, and was formally formed in August 1980.



Fig 3: Academic building of Institute of Agricultural Sciences

We were the first to create an Institute of Agricultural Research that offered masters and doctoral degrees. The Institute of Agricultural Research was renamed College of Agriculture and incorporated under the Faculty of Technology in 1945, and undergraduate instruction began. The College of Agriculture became a separate Faculty of Agriculture in 1968. In 1969, six departments were established, including Plant Physiology, Agronomy, Genetics & Plant Breeding, Soil Science & Agricultural Chemistry, Plant Pathology, and Agricultural Economics. Horticulture, Entomology & Agricultural Zoology, and Extension Education, Animal Husbandry & Dairying, and Farm Engineering were added in 1971 and 1981, respectively. The Agricultural Sciences Institute established a separate Faculty of Agriculture. Now the Institute of Agricultural Sciences has 11 departments.

List of Departments of Institute of Agricultural Sciences

Sr. No.	Name of Department
1.	Agronomy
2.	Genetics and Plant Breeding
3.	Extension Education
4.	Plant Physiology
5.	Soil Science
6.	Plant Pathology
7.	Horticulture
8.	Entomology
9.	Agricultural economics
10.	Dairy Science and Food Technology
11.	Agricultural Farm Engineering

3.3 Sample and Sampling Procedure

3.3.1 Research Design

The purpose of this thesis is to identify or discover the research trends in Agriculture Extension since 2010-2020 in Department of Extension Education. Therefore exploratory research design was used. As exploratory studies as the major emphasis in this design is on the discovery of ideas and insights. This design characterized by a great amount of flexibility and ad hoc versatility. And enable the researcher to answer research questions objectively, accurately and economically.

3.4 Data Collection Tools and Procedure

The data was collected by the researcher personally reviewing and observing all of the research work conducted in the department of extension education, BHU

from 2010 to 2020. A list of thesis was obtained from the respective department. There are a total of 131 M.Sc. (Ag.) and 37 Ph.D. theses had been found till the year 2020. However, during the research study, 4 theses were not available in the departmental library. So, the collection of information was done from the available 164 theses of the departmental library.

3.5 Analysis of Data

The data was based on secondary review of literature. For a precise and meaningful analysis and interpretation of the data acquired, the following both quantitative and qualitative approaches of analysis were applied. Quantitative research techniques aid in arriving at a relevant conclusion, collect numerical data and utilize statistical analysis. Qualitative techniques, on the other hand, aim to collect analysis rather than data in words and concepts qualification (**Punch, 2005**). Both methodologies, as well as their associated data collection methods, have benefits and drawbacks.

3.6 Statistical Analysis

Statistical analysis of quantitative data is an important aspect of research work, as it facilitates the condensation of collected data in a simple form. This helps in establishing relationships between different variables and provides a sound base for policy formulation. The statistical techniques used for data analysis were as follows:

A. Frequency

Frequency distribution in statistics is a representation that displays the number of observations within a given interval.

B. Percentage

Percentage value was calculated to make simple comparisons. These were calculated by dividing the particular cells by total number of respondents and multiplying by 100.

$$\text{Percentage} = \frac{\text{frequency of a particular observation}}{\text{total number of observation}} * 100$$

$$P = \frac{n}{N} \times 100$$

Where,

n = frequency of a particular observation

N= Total number of observations

P= Percentage

3.6 Terms Related to Study

The terminology and concepts used in the study are as follows:

- **Content Analysis**

The phrase "content analysis" refers to a technique for analyzing theses in terms of research fields and trends, as well as the research methodologies employed in the theses.

- **Objectives**

It refers to the something that you are trying to achieve.

- **Area of Research**

It refers to the several subjects of study covered by the Department of Extension Education's M.Sc. (Ag.) and Ph.D. (Ag.) researches.

- **Trends of Research**

The propensity or general direction in which something tends to travel is referred to as a trend. The pattern of changes in the research fields over time is used to determine a research trend.

- **Research Design**

Appropriate research design is the most important aspect of any study. It is a method of collecting and analyzing data that tries to combine relevance to research goals with methodological efficiency. The content analysis design is used to analyze the area of research, research methods, and format of theses to achieve the objectives at the time of study.

- **Locale of the Study**

It refers to the study location, which includes the state, region, district, block, villages, and others (organizations, institutions, and communication centers).

- **Sampling Procedure**

It refers to the methods and pattern of sampling of districts, blocks, villages, other (organization) used by the researchers in their study.

- **Sample Size**

It refers to the overall number of respondents used in the theses, which is drawn from the entire population.

- **Nature or Respondent**

It refers to the kind of respondents who are considered for any type of study.

- **Variable**

Any response or behavior which can take different degrees. Is a symbol to which numerals or values are assigned. For example land holding, adoption, attitude etc. are the variables.

- **Techniques of Data Collection**

It refers to the data collection techniques and methodologies employed.

- **Tools of Data Collection**

Screening sheets were utilized to screen out the required data from 164 theses for data collection for the content analysis.

- **Analysis of Data (Statistics used)**

After tabulating the data, several approaches such as frequency and percentage were utilized to examine the data.

- **Types of Data**

The information employed in the study is secondary in nature. The investigation included all M.Sc. (Ag.) and Ph.D. (Ag.) theses submitted by Department of Extension Education students between 2010 and 2020.

- **Presentation of Review**

It refers to the number of reviews consulted and their presentation in sequence i.e. year-wise.

- **Bibliography**

Refers to the processes of presenting references, whether published or unpublished that were used in the creation of the thesis in alphabetical or chronological order.

- **Appendices**

It is the placement of enclosures between the final chapter and the Bibliography or immediately after the bibliography. It refers to the number of enclosures in the theses.

- **Year**

The terms to the year of submission of thesis in the office of the Dean, Post-Graduate and Ph.D. Studies Institute of Agricultural Sciences, BHU, Varanasi.

- **Format**

It refers to the overall appearance of the publication. It also refers to the style of presentation of the theses.

- **Pages**

The number of pages from the introduction chapter to the appendices is referred to as "pages."

- **Illustration**

The number of tables and figures (photographs) used in the theses is referred to as this.

- **Table**

It refers to the number and type of the tables, short (simple) and long (complex) tables used.

- **Figure**

The number of color or black-and-white figures, with or without captions, used in the theses is referred to as a figure.



RESULTS AND DISCUSSION

The findings of the study and discussion have been presented in this chapter. The collected data were classified and analyzed in the light objective of the study. The results are presented below under the headings listed below.

- 4.1 The area and trends of research in Department of Extension Education.
- 4.2 The research designs, locale, sampling procedures and sample sizes taken in the theses.
- 4.3 To document the nature of respondents, variables, tools of data collection and statistics used in thesis.
- 4.4 To record limitations of previous theses.

4.1 Areas and trends of research

4.1.1 Classification of Extension Education Researches according to research areas

Data regarding the studies conducted in the Department of Extension Education were analyzed and classified into 16 major areas of Extension Education as shown in table 1.1.

It reveals that most of the M.Sc. research was conducted under ‘Adoption and Diffusion’ i.e., (33.85%) followed by ICT (29.92 %), social and psychological (22.04%), Research & educational institution/ organization (12.58%), Content analysis (11.81%), Extension methods and communication studies (11.79 %), Development projects/ programmes (11.02 %), in both Human resource development and Entrepreneurship development (7.87 %), Studies of gender, youth & children (7.86%), Agricultural journalism (6.29 %), Environmental development (5.51 %), Training programmes of farmers (4.72%), private extension (4.71%), ITK (2.36 %),

miscellaneous studies including livestock management, Rythu bazaar, case study, career dynamics (3.93 %), etc.

Data regarding the Ph.D. researches reveal that most of the study was done under 'Extension methods & communication studies'(24.00%), followed by ICT (21.62%), Studies of gender, youth & children (21.61 %), Adoption and Diffusion (18.91 %), Human resource management (16.21 %), Research & educational institution/ organization (13.50 %), Entrepreneurship development (10.81%), Development projects/ programmes (8.00 %), Private extension, Social & psychological dimensions and Training programmes of farmers (5.40 %), each Agricultural journalism, Environmental studies and ITK (2.70 %).

Overall it was found that adoption & diffusion (33.85%) has become the most popular research area among the researcher over the years. One of the important reasons has been revealed by the researchers that it is critical to understand the impact of extension agent efforts in motivating rural people. Such as to adopt improved farm practices, factors affecting adoption, adoption constraints, awareness of technological innovations, and characteristics of adopters. **Similar findings were shown by Biswas and Ghadei (2009), Singh and Ghadei (2010), Siddaramaiah and Raghavendra (1983) and Promila and Kaushik (2009).**

ICTs are extremely beneficial in agricultural extension and advising services, as well as in reaching out to small-scale farmers. Extension and advisory services are critical in boosting agricultural productivity, improving food security, and enhancing rural livelihoods. As a result, the field of information and communication technology (ICT) has taken second place in our findings (29.92%).

Extension, as we all know, encourages both overt and covert behavior among rural residents in the direction of agricultural development. As a result, numerous psychological characteristics such as knowledge, attitude, skill, opinion, and others are studied when performing this work in order to learn more about people's social-psychological situations. As a result, the field of studies in social and psychological dimensions (22.04%) has taken third place in our findings.

Table 1.1: Distribution of theses according to the areas and sub-areas of research

S.No.	Areas	Sub- areas	M.Sc. Thesis (n=127)		Ph.D. Thesis (n= 37)	
			Frequency	%	Frequency	%
1	Adoption and diffusion	Awareness of innovations	15.00	11.81	01.00	02.70
		Improved farm practices	09.00	07.09	04.00	10.81
		Characteristics of adopters	12.00	09.45	02.00	05.40
		Factors affecting adoption	02.00	01.57	00.00	00.00
		Constraints in adoption	05.00	03.93	00.00	00.00
		Total	43.00	33.85	00.00	18.91
2	Agricultural journalism		08.00	06.29	01.00	02.70
3	Content analysis		15.00	11.81	00.00	00.00
4	Human resource management	Adult education	01.00	00.78	00.00	00.00
		Agricultural education	06.00	04.72	02.00	05.40
		Distance education	01.00	00.78	00.00	00.00
		Researches on tribal people	02.00	02.00	04.00	10.81
		Total	10.00	07.87	06.00	16.21
5	Entrepreneurship development		10.00	07.87	04.00	10.81
6	Environmental studies		07.00	05.51	01.00	02.70
7	ICT		38.00	29.92	08.00	21.62
8	Development projects/ programmes	SHGs	05.00	03.93	02.00	01.57
		ATMA	01.00	00.78	01.00	01.57
		ACABC	01.00	00.78	00.00	0.00
		Crop insurance scheme	01.00	00.78	00.00	0.00
		Women development programme	02.00	01.57	01.00	00.78
		Ram Krishna mission	00.00	00.00	01.00	00.78
		Others	04.00	03.14	00.00	01.57
		Total	14.00	11.02	03.00	08.00

S.No.	Areas	Sub- areas	M.Sc. Thesis (n=127)		Ph.D. Thesis (n= 37)	
			Frequency	%	Frequency	%
9	Social & psychological dimensions	Knowledge	10.00	07.87	01.00	02.70
		Attitude	04.00	03.14	00.00	00.00
		Skill	01.00	00.78	00.00	00.00
		Socio-economic studies	05.00	03.93	00.00	00.00
		Opinion	08.00	06.29	01.00	02.70
		Total	28.00	22.04	02.00	05.40
10	ITK		03.00	02.36	01.00	02.70
11	Studies of gender, youth & children	Women	09.00	07.08	07.00	18.91
		Children	01.00	00.78	00.00	00.00
		Youth	00.00	00.00	01.00	02.70
		Total	10.00	07.86	08.00	21.61
12	Training programmes of farmers		06.00	04.72	02.00	05.40
13.	Research & educational institution/ Organization	KVKs	04.00	03.14	03.00	08.10
		Universities	12.00	09.44	02.00	05.40
		Total	16.00	12.58	05.00	13.50
14.	Private extension	NGOs	02.00	01.57	01.00	02.70
		Agricultural inputs	04.00	03.14	01.00	02.70
		Total	06.00	04.71	02.00	05.40
15.	Extension methods & communication studies	Communication behavior	04.00	03.14	01.00	02.70
		Group method	02.00	01.57	02.00	05.40
		Mass media: a)Broadcast media (radio, television)	03.00	02.36	01.00	02.70
		b)print media (newspaper, magazine)	06.00	04.72	05.00	13.51
		Total	15.00	11.79	09.00	24.00
16.	Miscellaneous studies: (livestock management, Rythu bazaar, case study, career dynamics, etc.)		05.00	03.93	00.00	00.00
	Total		234.00*	184.52*	65.00*	158.37*

Note: * = Multiple responses.

4.1.2 Number of M.Sc. and Ph.D. theses submitted in Extension Education**Table 1.2: Frequency of M.Sc. (n= 127) and Ph.D. (n=37) theses submitted since 2010**

S.No.	Years	M.Sc. Thesis (n=127)		M.Sc. Thesis (n=37)	
		Frequency	%	Frequency	%
1	2010	07.00	05.52	02.00	05.41
2	2011	11.00	08.67	02.00	05.41
3	2012	12.00	09.44	03.00	08.11
4	2013	12.00	09.44	03.00	08.11
5	2014	10.00	07.87	02.00	05.41
6	2015	11.00	08.67	05.00	13.52
7	2016	14.00	11.02	02.00	05.41
8	2017	11.00	08.67	04.00	10.82
9	2018	12.00	09.45	06.00	16.22
10	2019	10.00	07.87	02.00	05.41
11	2020	17.00	13.38	06.00	16.22
Total		127.00	100.00	37.00	100.00

Table 1.2 shows the number of theses submitted in each year of the Department of Extension Education's existence.

In Table1.2 M.Sc. theses reveal a growing trend of research works completed in the department from 2010 to 2012, a stable trend from 2012 to 2013, and a decreasing trend from 2013 to 2014. However, from 2014 to 2016, there is yet another upward trend. From 2016 to 2019, there is a downward tendency, followed by an upward trend from 2019 to 2020.

When it comes to PhDs, we can see that the table indicates slightly increasing patterns of research effort in the department from 2010 to 2013, but a decreasing tendency from 2013 to 2014. However, from 2014 to 2015, there was yet another upward tendency. From 2015 to 2016, a declining trend was noticed, followed by a rising trend from 2016 to 2018, but from 2018 to 2019, a falling trend was recorded, followed by an increasing trend from 2019 to 2020. In the figure- 4, the above-mentioned statistics are depicted in frequency order. **Similar findings were shown by Verma and Ghadei (2017), Singh and Sharma.**

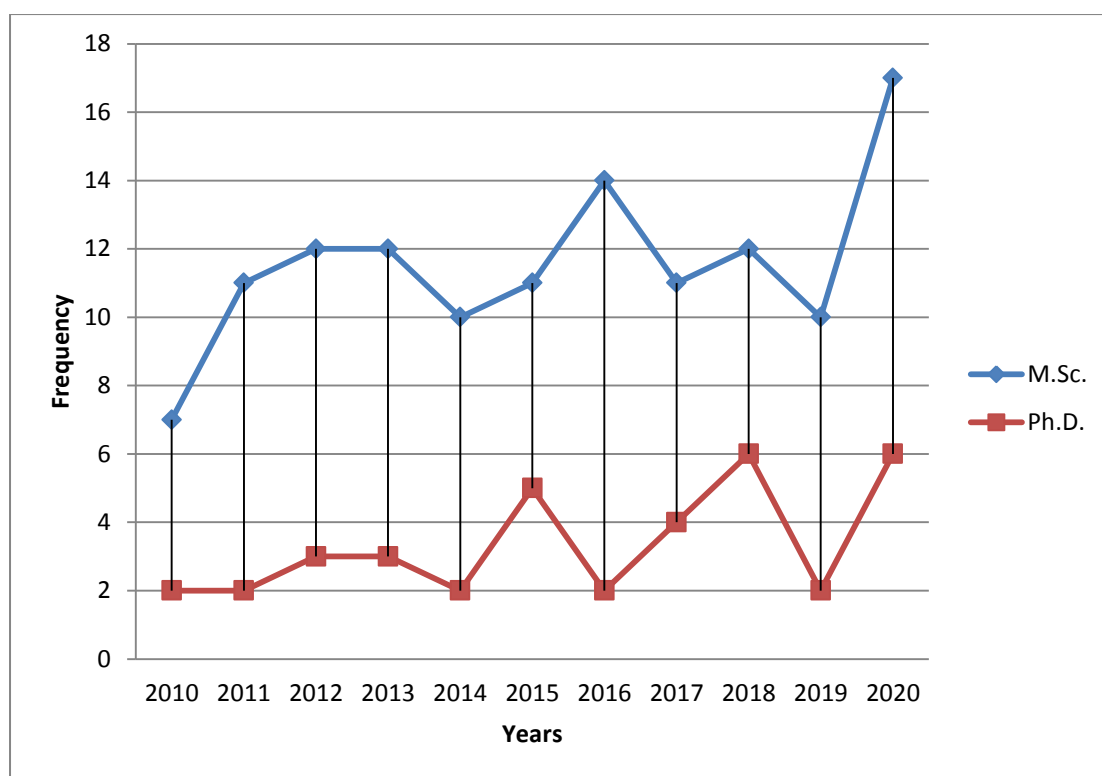


Fig. 4: Trend of theses submitted from 2010- 2020, in M.Sc. (n=127) and Ph.D. (n=37)

4.2 Research design, locale of research, sampling procedure, number of respondents (sample size)

4.2.1 Classification of Extension Education Researches according to the research designs adopted

Table 1.3: Distribution of theses according to the research designed used

S.No.	Research design	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Ex-post-facto	54.00	42.51	24.00	64.90
2	Exploratory	34.00	26.77	08.00	21.60
3	Evaluatory	04.00	03.14	00.00	00.00
4	Descriptive	08.00	06.30	01.00	02.70
5	Experimental	02.00	01.60	00.00	00.00
6	Analytical	00.00	00.00	02.00	05.40
7	Not mentioned	25.00	19.68	02.00	05.40
Total		127.00	100.00	37.00	100.00

According to Table1.3 majority of the M.Sc. theses (42.51 %) used ex-post-facto as a research design, followed by exploratory research design (26.77 %), and descriptive research design (6.30 %). Only 3.14 percent and 1.60 percent of these, respectively, used evaluatory and experimental study designs. The majority of them (19.68 %) failed to mention the study designs that the researchers utilized in their investigations.

Data regarding Ph.D. theses, we see that the majority of them (64.90 %) used ex-post-facto research design, followed by exploratory research design (21.60 %), while 5.40 per cent used analytical research design, 2.70 percent used descriptive research design, and 5.40 percent did not mention the research designs used by the researchers for their studies. In the figure- 5, the above-mentioned statistics are depicted in frequency order.

Post-graduate research is a type of orientation for students toward a systematic research programme. Many students may be unaware of the many study designs used in social science research. This could explain why 28.3 per cent of the researchers failed to mention the research designs. **Similar findings were revealed by Singh and Ghadei (2010), Biswas and Ghadei (2009), Sujan (1986).**

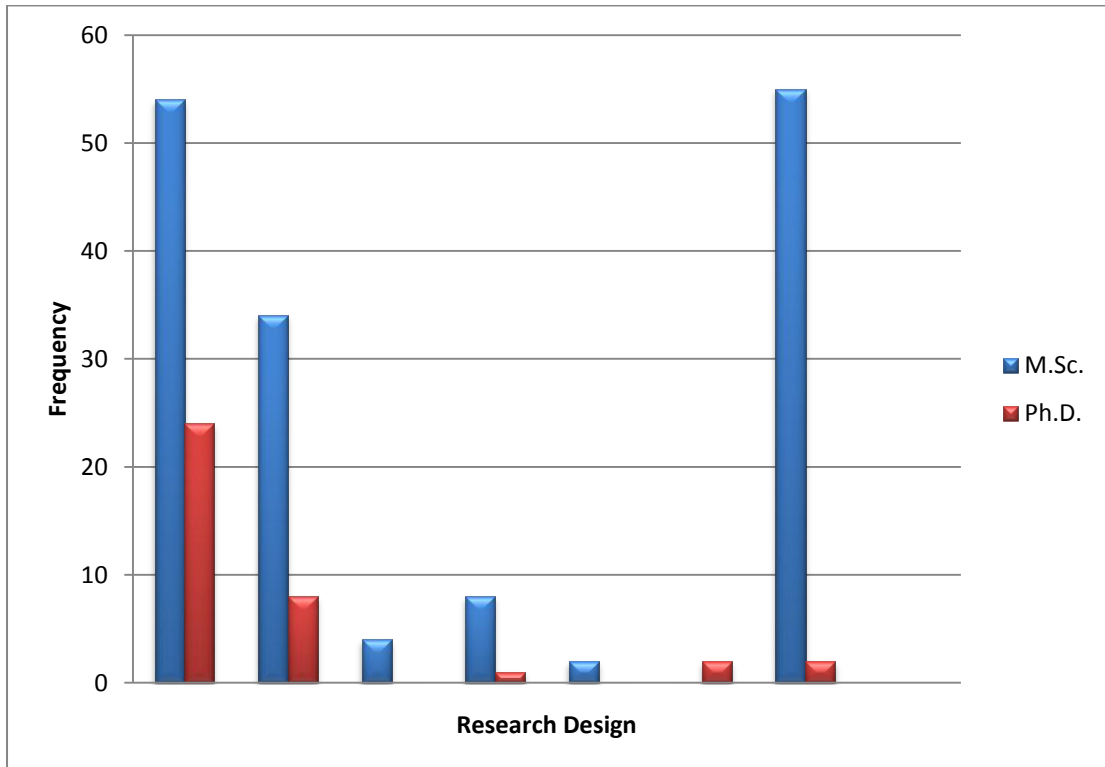


Fig.5: Distribution of theses according to the research designs used, in M.Sc. (n=127) and Ph.D. (n=37)

4.2.2 Classification of Extension Education Researches according to the locale of research

Table 1.4: Distribution of theses according to the coverage of states under study:

S.No.	States or Place	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Uttar Pradesh	62.00	48.83	22.00	59.46
2	Bihar	11.00	08.70	03.00	08.12
3	Rajasthan	07.00	05.51	01.00	02.70
4	Madhya Pradesh	03.00	02.36	02.00	05.40
5	Andhra Pradesh	02.00	01.57	01.00	02.70
6	Jharkhand	02.00	01.57	01.00	02.70
7	Uttarakhand	03.00	02.36	04.00	10.82
8	Telangana	04.00	03.14	00.00	00.00
9	Orissa	02.00	01.57	00.00	00.00
10	Karnataka	04.00	03.14	00.00	00.00
11	Tamil Nadu	03.00	02.36	01.00	02.70
12	Chhattisgarh	00.00	00.00	01.00	02.70
12	Nepal	06.00	04.72	00.00	00.00
13	Iraq	00.00	00.00	01.00	02.70
14	Not mentioned	18.00	14.17	00.00	00.00
Total		127.00	100.00	37.00	100.00

Table 1.4 shows the states that the researchers have covered for their research.

Locale of the research is the area under which research was conducted. Data regarding the locale of the research in Table 1.4 revealed that study was conducted in 12 states of India and two studies were conducted in outside of India i.e., Nepal and

Iraq. Out of which the majority of the M.Sc. studies were conducted in Uttar Pradesh (48.81 per cent), followed by Bihar (8.66 per cent), Rajasthan (5.51 %), while Nepal accounted for only 4.72 per cent, with Telangana and Karnataka each accounting for 3.14 per cent whereas only 2.36 per cent each for Uttarakhand and Tamil Nadu followed by 1.57 per cent each for Andhra Pradesh, Jharkhand, and Orissa. In the figure- 6, the above-mentioned statistics are depicted in frequency order.

B.H.U. is located in Varanasi, Uttar Pradesh, and is close to the state of Bihar. Students generally want to conduct research in areas close to the institution. As a result, we can see that the most research was done in Uttar Pradesh, followed by Bihar. **Similar findings were shown by Verma and Ghadei (2017).**

Table 1.4 reveals that the majority of the Ph.D. studies were conducted in Uttar Pradesh (59.45 %), followed by Uttarakhand (10.81 %). Bihar accounted for 8.10 per cent of all research projects, while Madhya Pradesh accounted for only 5.40 per cent, with Rajasthan, Andhra Pradesh, Jharkhand, Tamil Nadu, Chhattisgarh, and Iraq each accounting for 2.70 per cent. In the figure- 7, the above-mentioned statistics are depicted in frequency order.

B.H.U. is located in Varanasi, Uttar Pradesh, and is close to the state of Uttarakhand. Students generally want to conduct research in areas close to the institution. As a result, we can see that the most research was done in Uttar Pradesh, followed by Uttarakhand.

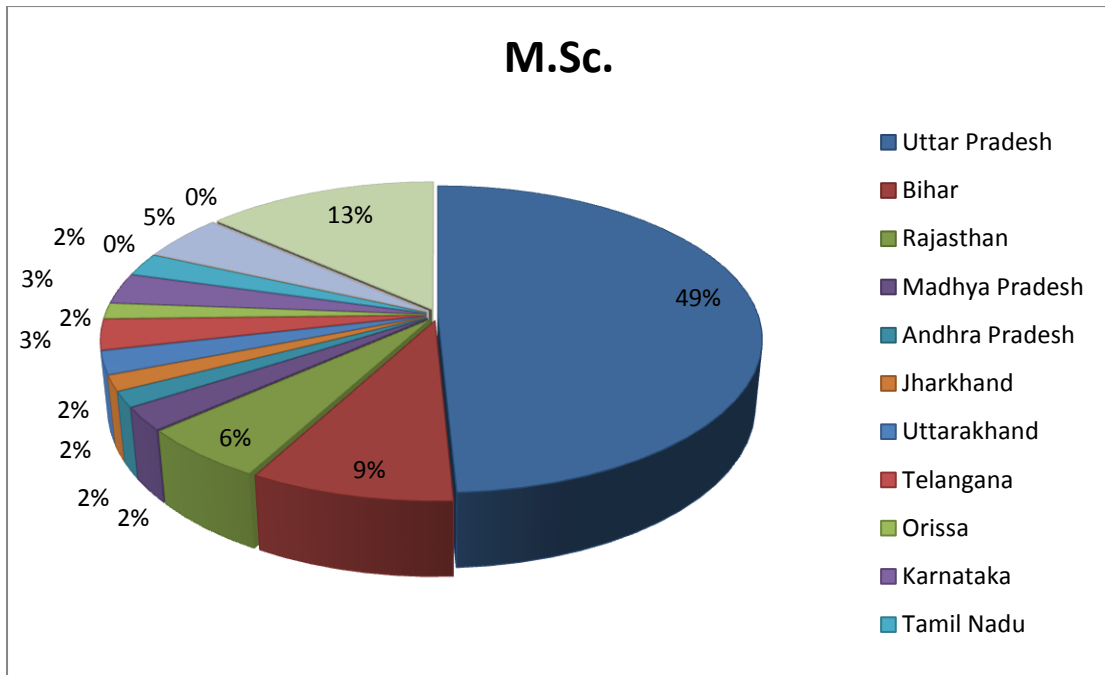


Fig. 6: Distribution of theses according to the coverage of states or place under study (n=127)

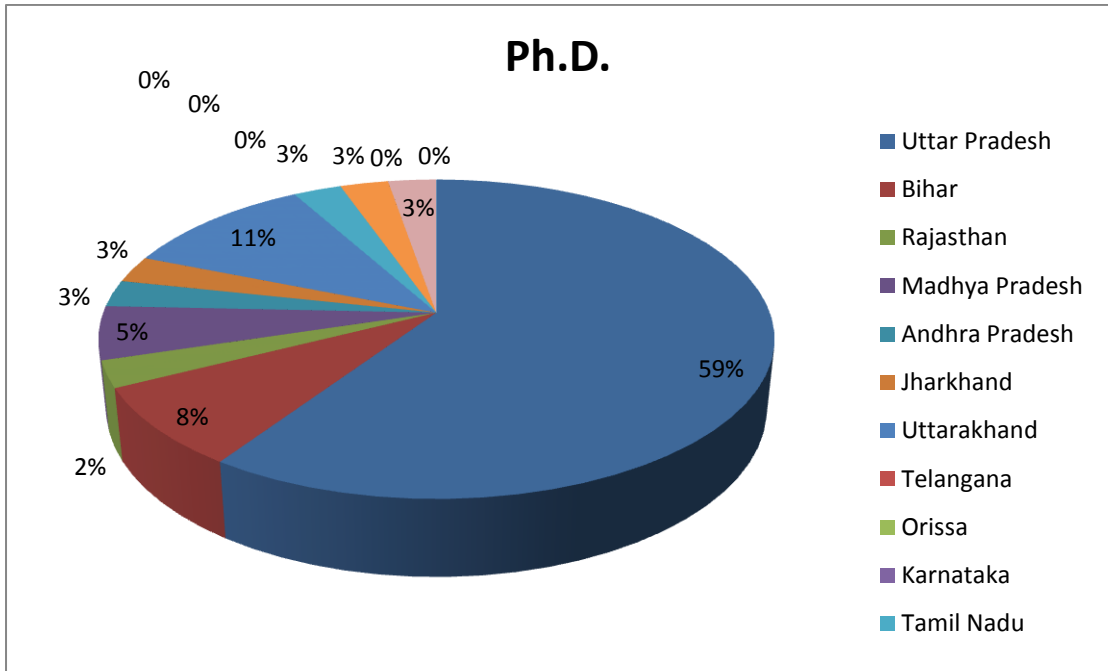


Fig. 7: Distribution of theses according to the coverage of states or place under study (n=37)

4.2.3 Classification of Extension Education Researches according to the sampling procedures used

The following subheads describe the sample procedures used to choose the states, districts, and respondents for the investigations:

4.2.3.1 Sampling procedures of states

4.2.3.2 Sampling procedures of districts

4.2.3.3 Sampling procedures of respondents

4.2.3.1 Sampling procedures used for selection of states

Table 1.5: Shows the sampling methods (procedures) that were utilized to pick the states.

S.No.	Sampling Procedures	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Purposive sampling	48.00	37.79	25.00	67.57
2	Random sampling	02.00	01.57	00.00	00.00
3	Not mentioned	62.00	48.83	12.00	32.43
4	Not applicable	15.00	11.81	00.00	00.00
Total		127.00	100.00	37.00	100.00

Table 1.5 shows that the majority of M.Sc. theses (48.81%) had no information about the sampling procedures used for selecting the states, followed by 37.79 per cent of theses that used purposive sampling to select the states, 11.81 per cent of theses that did not select any particular state and 1.57 per cent that used random sampling to select the states. Figure-8, depicts the above-mentioned data as a frequency distribution.

Data regarding Ph.D. theses, we see that the majority of M.Sc. theses (67.56 %) had used purposive sampling to select the state, whereas (32.43 %) no information

about the sampling procedures used for selecting the states, Figure depicts the above-mentioned data as a frequency distribution.

Mostly researches are based on secondary data and Post-graduate students, in general, do not fully comprehend the significance of research. Due to the problem of unemployment and uncertainty about their future career prospects, students attempt to submit theses as quickly as possible, which is only a partial prerequisite for completion of the course. As a result, it is possible to assume that the students did not apply the sampling process or, if they did, did not include it in their study work owing to a lack of knowledge and understanding.

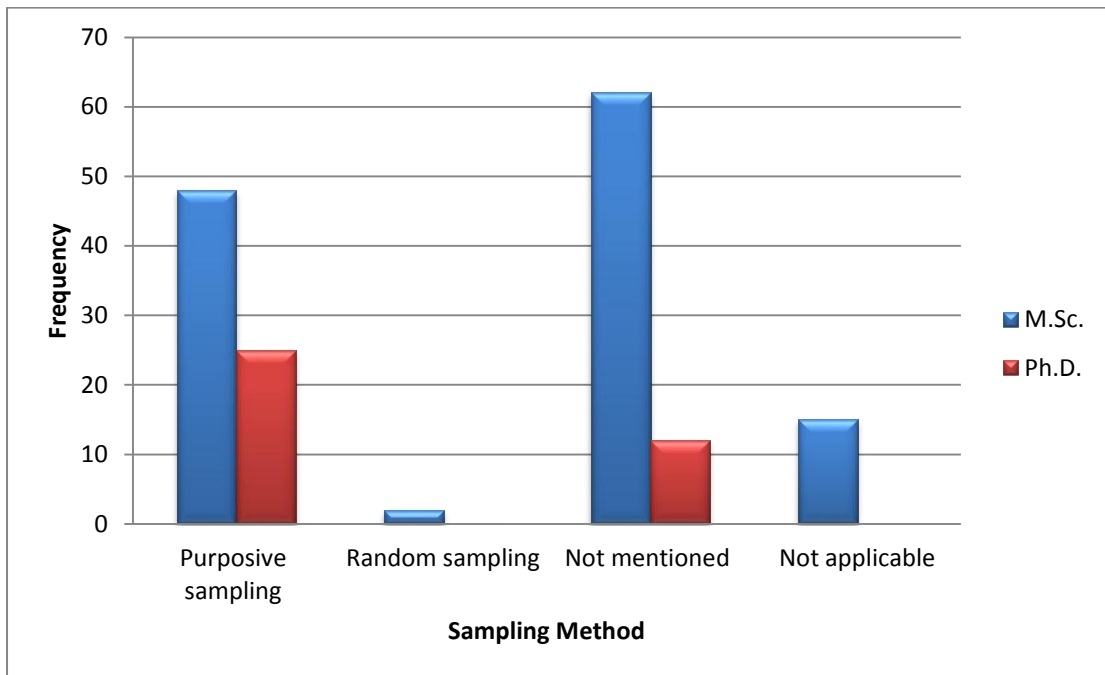


Fig. 8: Distribution of theses according to the sampling methods used for selection of states, in M.Sc. (n=127) and Ph.D. (n=37)

4.2.3.2 Sampling procedures used for selection of districts

Table 1.6 shows the sample methods (procedures) that were employed to pick the states.

Table 1.6: Distribution of theses according to the sampling methods used for selection of districts

S.No.	Sampling Procedures	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Purposive sampling	72.00	56.69	29.00	78.37
2	Random sampling	07.00	05.52	06.00	16.23
3	Not mentioned	33.00	25.98	02.00	05.40
4	Not applicable	15.00	11.81	00.00	00.00
Total		127.00	100.00	37.00	100.00

Table 1.6 reveals that purposive sampling was employed in the majority of M.Sc. theses (56.69 %), whereas 25.98 per cent of theses did not mention the sample strategy used to choose the districts. Only 11.81 per cent of researchers did not choose a specific district for their investigations, while 5.51 per cent chose districts using random sampling methods. Figure depicts the above-mentioned data as a frequency distribution.

When we look at PhD theses, we see that the majority of theses (78.37 %), whereas 5.40 per cent of theses did not mention the sample strategy used to choose the districts. Only 16.21 per cent chose districts using random sampling methods. Figure depicts the above-mentioned data as a frequency distribution.

Purposive sampling may provide the highest number of theses since the researchers are from the same or surrounding areas, but it could also be due to a lack of suitable direction and exposure to research orientation. **Similar findings were shown by Biswas and Ghadei (2009) Thakur and Trikha (2002).**

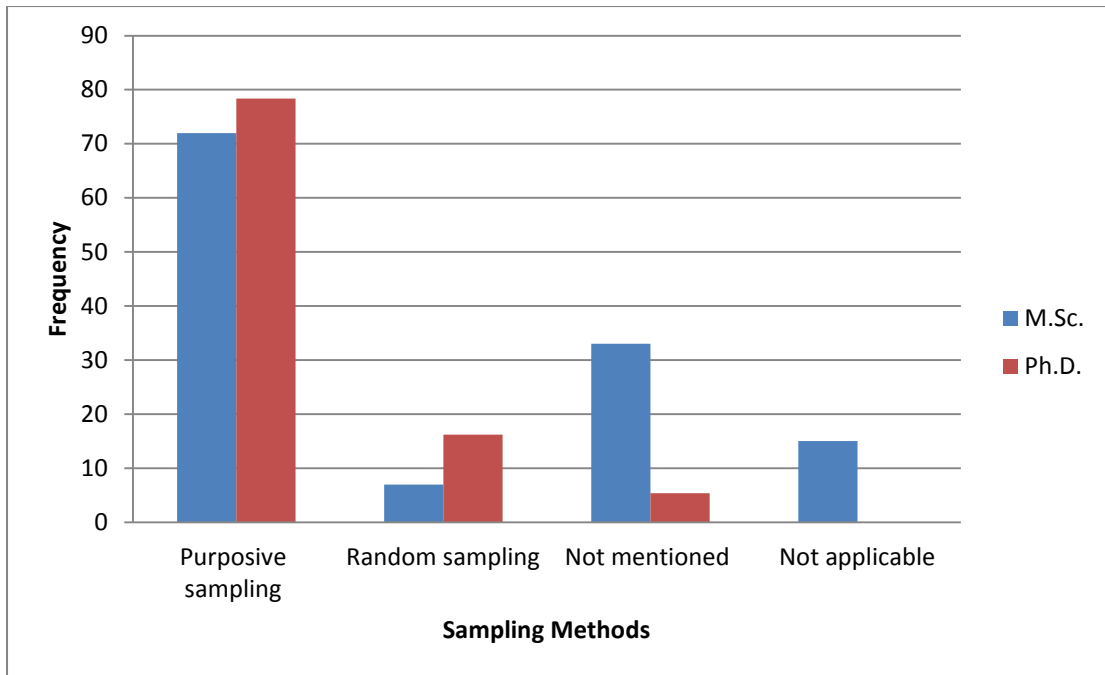


Fig. 9: Distribution of theses according to the sampling methods used for selection of districts, in M.Sc. (n=127) and Ph.D. (n=37)

4.2.3.3 Sampling procedures used for Selection of Respondents

Table 1.7: Distribution of theses according to the sampling methods used for selection of respondents

S.No.	Sampling Procedures	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Purposive sampling	10.00	07.87	02.00	05.41
2	Random sampling	78.00	61.42	34.00	91.89
3	Census survey	02.00	01.57	00.00	00.00
4	Combination of survey	06.00	04.73	00.00	00.00
5	Not mentioned	13.00	10.24	01.00	02.70
6	Cannot be traced	18.00	14.17	00.00	00.00
Total		127.00	100.00	37.00	100.00

Table1.7 lists the sample methods (procedures) that were utilized to pick respondents.

Table1.7 indicates that the majority of researchers (61.41 %) used a random sample approach to select respondents, whereas 14.17 per cent of these had no respondents and 10.23 per cent of these had no information regarding the sampling methods used to pick respondents, whereas (7.87 %) used purposive sample approach to select respondents. Only 1.57 per cent of these were done using the census approach, whereas 4.72 per cent used combination of sampling procedures to choose the respondents. Figure 10 depicts the above mentioned data as a frequency distribution.

When we look at Ph.D. theses, we see that the majority of researchers (91.89 %) used a random sample approach to select respondents, whereas (5.40 %) used purposive sample approach to select respondents. While 2.70 per cent of these had no information regarding the sampling methods used to pick respondents. Figure depicts the above-mentioned data as a frequency distribution.

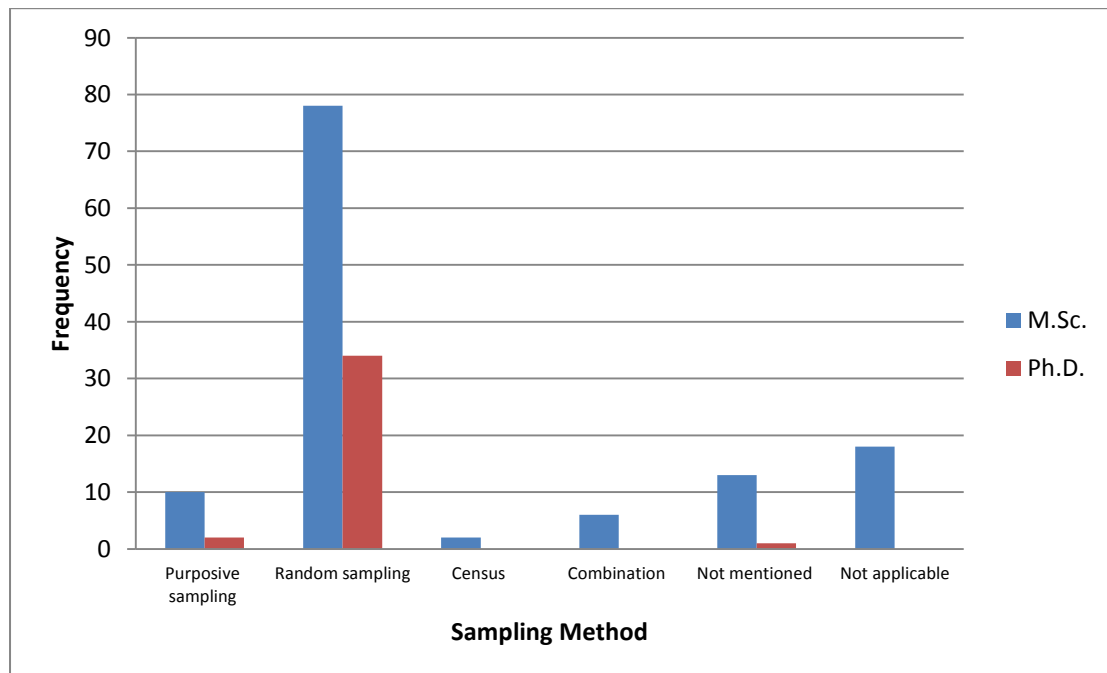


Fig. 10: Distribution of theses according to the sampling methods used for selection of respondents, in M.Sc. (n=127) and Ph.D. (n=37)

The majority of researchers may use the random sampling approach for selecting respondents in order to reduce bias in data collecting and to make it easier to select varied respondents. **Similar findings were revealed by Sujan (1986) and Thakur and Trikha (2002).**

4.2.4 Classification of Extension Education Researches according to number of respondents taken

Table 1.8: Frequency of theses according to the distribution of the number of respondents taken

S.No.	Range	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Below 51	14.00	11.02	01.00	02.70
2	51-100	27.00	21.26	02.00	05.40
3	101-150	51.00	40.16	03.00	08.11
4	151-200	10.00	07.87	16.00	43.25
5	201-250	4.00	03.15	09.00	24.32
6	Above 250	03.00	02.36	06.00	16.22
7	No respondents	18.00	14.18	00.00	00.00
Total		127.00	100.00	37.00	100.00

Table1.8 shows the number of respondents (sample size of respondents) taken by the researchers.

Table1.8 express that the majority of the M.Sc. theses (40.15%) had respondents ranging from 101 to 150, whereas 21.25 per cent of theses had respondents ranging from 51 to 100. There were no respondents in 14.17 percent of theses. Following that, 11.02 percent of theses had fewer than 51 responses, while 2.36 per cent had more than 250. The studies included a minimum of 25. Figure depicts the previously provided data as a frequency distribution.

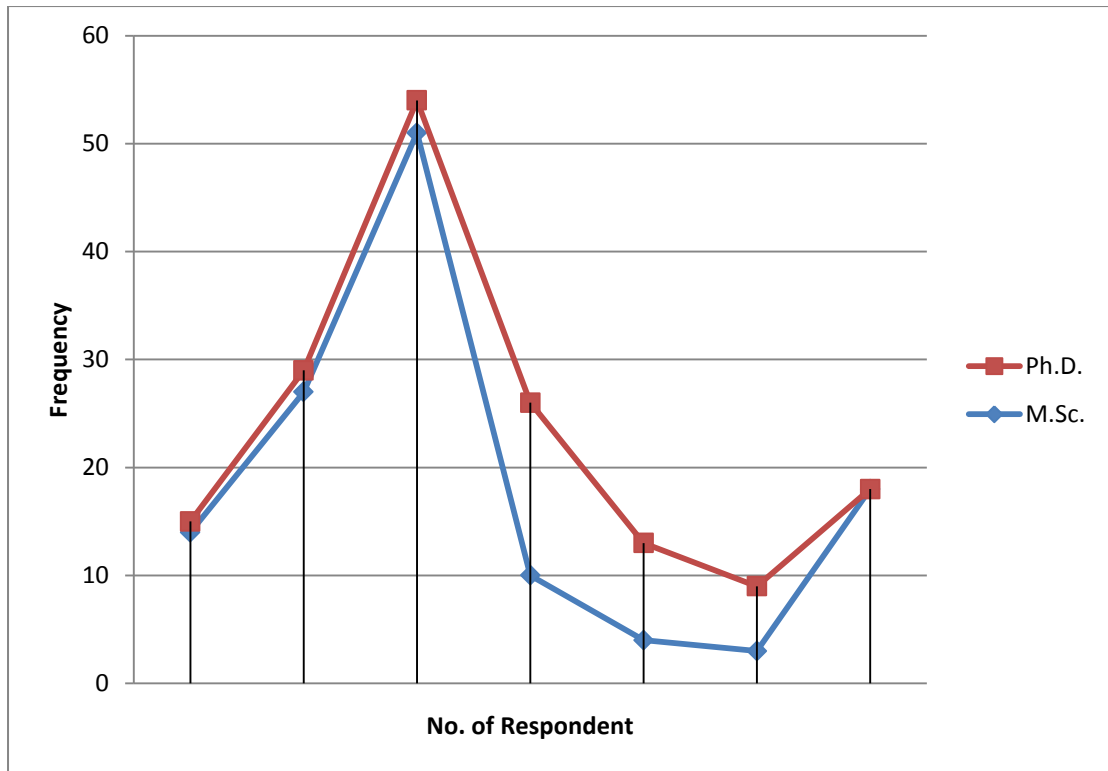


Fig. 11: Frequency of theses according to the distribution of the number of respondents, in M.Sc. (n=127) and Ph.D. (n=37)

Data regarding PhD theses, we see that the bulk of theses (45.94 %) had respondents ranging from 151 to 200, whereas 24.32 percent of theses had respondents ranging from 201 to 250. Following that, 16.21 per cent of theses had more than 250 respondents, while 2.70 per cent had fewer than 51 responses. The studies included a maximum of 500 participants and a minimum of 25. Figure 11 depicts the previously provided data as a frequency distribution.

Most researchers may have utilized sample sizes of 101-151 and 151-200 for selecting respondents due to the convenience of data analysis for small sample sizes and a lack of time. **A similar finding was revealed by Sujan (1986).**

4.3 Nature of respondents, variables taken, tools of data collection, and statistics used

4.3.1 Extension Education Researches are classified based on the nature of the respondents

Table 1.9: Distribution of theses according to the types of respondents:

S.No.	Types of respondents	Sub – types	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
			Frequency	%	Frequency	%
1	Village people	Farmers	50.00	39.37	18.00	48.64
		Non – farmers	05.00	03.93	02.00	05.40
2	Women	Rural	06.00	04.72	02.00	05.40
		Tribal	02.00	01.57	01.00	02.70
3	University students		18.00	14.17	02.00	05.40
4	Children	School	03.00	02.36	00.00	00.00
		Non - school	01.00	00.78	00.00	00.00
5	Members of SHGs and NGO		07.00	05.51	03.00	08.10
6	Government official		02.00	01.57	01.00	02.70
7	City people		03.00	02.36	01.00	02.70
8	Trainers		03.00	02.36	00.00	00.00
9	Teachers		02.00	01.57	02.00	05.40
10	Gram Panchayat leader		01.00	00.78	01.00	02.70
11	Combination		06.00	04.72	04.00	10.81
12	No respondents		18.00	14.17	00.00	00.00
Total			127.00	100.00	37.00	100.00

Table 1.9 reveals that farmers were the most common respondents (39.37 %), followed by university students (14.17 %), members of SHGs and NGOs (5.51 %), rural women (4.72 %), and non-farmer village residents (3.93 %), and a combination of respondents (4.72 %). Only 5.51 per cent of these included members of SHGs and NGOs as responders, compared to 2.36 per cent for school students, city people, and trainers, and only 1.57 per cent for tribal women and teachers. There were no respondents for 14.17 per cent of these.

Data regarding PhD theses, we see that the farmers were the most common respondents (48.64 %), followed by a combination of respondents (10.81 %), members of SHGs and NGOs (8.10%), whereas (5.40 % each) in university students, rural women, non-farmer village residents, and teachers. Only 2.70 per cent each of these included tribal women, government official, city people, and gram Panchayat leaders as responders.

Extension education is primarily focused on rural development, bringing about desired changes in farmers' attitudes toward adopting new technologies. Farmers are important persons of rural development because they make up the majority of a rural community. This could be one of the reasons why the majority of researchers chose farmers as their primary responders. **Similar findings were shown by Verma and Ghadei (2017), Singh and Ghadei (2010), Biswas and Ghadei (2009), Sujan (1986) and Singh et al. (2001).**

4.3.2 Classification of Extension Education Researches according to the variables taken

Dependent variables and independent variables are the two sorts of variables, and they are chosen based on the research topic. On the basis of the independent factors, the dependent variables are estimated.

Table 1.10 indicates that knowledge was utilized as one of the dependent variables in the majority of theses (23.62 %), followed by awareness (18.89 %), and adoption (17.32 %). The dependent and independent variables were not clearly distinguished in 12.59 per cent of the M.Sc. theses.

Data regarding PhD researches, we see that knowledge was utilized as one of the dependent variables in the majority of theses (24.62 %), followed by adoption, attitude and constraints (8.10% each). Whereas (5.40% each) opinion, awareness, communication behavior and technological gap. The dependent and independent variables were not clearly distinguished in 5.40 per cent of the theses.

Because the majority of the studies have been conducted in the field of adoption and diffusion, variables such as adoption, knowledge, and attitude are commonly utilized in these studies. As a result, the dependent variables listed above have a large proportion. **Similar findings were shown by Meena and Wakle (2019).**

Table 1.10: Distribution of theses according to the dependent variable used (Note:*= Multiple Responses)

S. No.	Dependent variables	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Adoption	22.00	17.32	03.00	08.10
2	Knowledge	30.00	23.62	09.00	24.32
3	Attitude	12.00	09.44	03.00	08.10
4	Constraints	07.00	05.51	03.00	08.10
5	Opinion	06.00	04.72	02.00	05.40
6	Awareness	24.00	18.89	02.00	05.40
7	Socio economic status	02.00	01.57	01.00	02.70
8	Mass media	02.00	01.57	01.00	02.70
9	Skill	03.00	02.36	01.00	02.70
10	Perception	08.00	06.29	01.00	02.70
11	Communication behavior	01.00	00.78	02.00	05.40
12	People participation	04.00	03.14	01.00	02.70
13	Risk taking ability	02.00	01.57	01.00	02.70
14	Technological gap	04.00	03.14	02.00	05.40
15	Utilization	06.00	04.72	01.00	02.70

S. No.	Dependent variables	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
16	Life style	02.00	01.57	00.00	00.00
17	Decision making	03.00	02.36	00.00	00.00
18	Credit behavior	01.00	00.78	00.00	00.00
19	Social media	04.00	03.14	00.00	00.00
20	Agriculture development	01.00	00.78	00.00	00.00
21	Community	01.00	00.78	00.00	00.00
22	Financial activity	02.00	01.57	00.00	00.00
23	Access	01.00	00.78	00.00	00.00
24	Empowerment	04.00	03.14	00.00	00.00
25	Difficulties	02.00	01.57	00.00	00.00
26	Use	03.00	02.36	00.00	00.00
27	Motivation	02.00	01.57	00.00	00.00
28	Activities	03.00	02.36	00.00	00.00
29	Readability	01.00	00.78	00.00	00.00
30	Income	02.00	01.57	00.00	00.00
31	Pattern	01.00	00.78	00.00	00.00
32	Competence	01.00	00.78	00.00	00.00
33	Mobility	01.00	00.78	00.00	00.00
34	Preference	01.00	00.78	00.00	00.00
35	Information need	01.00	00.78	00.00	00.00
36	Impact	04.00	03.14	00.00	00.00
37	Performance	01.00	00.78	00.00	00.00
38	Agriculture inputs	01.00	00.78	00.00	00.00
39	Earning	01.00	00.78	00.00	00.00
40	Saving	01.00	00.78	00.00	00.00
41	Investment	01.00	00.78	00.00	00.00
42	Expenditure	01.00	00.78	00.00	00.00
43	Identification of components	00.00	00.00	01.00	02.70
44	Selection of statements	00.00	00.00	01.00	02.70
45	Occupation diversification	00.00	00.00	01.00	02.70
46	Prospects of farming	00.00	00.00	02.00	05.40
47	Socio economic impact	00.00	00.00	01.00	02.70
48	Agripreneurial behavior	00.00	00.00	01.00	02.70

S. No.	Dependent variables	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
49	Scientific temperament	00.00	00.00	01.00	02.70
50	Decision making and problem solving	00.00	00.00	01.00	02.70
51	Efficiency and effectiveness	00.00	00.00	01.00	02.70
52	Critical thinking for better work	00.00	00.00	01.00	02.70
53	Professionalism	00.00	00.00	01.00	02.70
54	Work environment	00.00	00.00	01.00	02.70
55	Impact of ICT	00.00	00.00	01.00	02.70
56	Extent of technical competency	00.00	00.00	01.00	02.70
57	Not mentioned	16.00	12.59	02.00	05.40
Total		196.00	154.33	50.00	135.130

The following are some of the most popular independent variables utilized by researchers:

Age	Caste	Background	Mass media exposure
Sex	Farm size	Birthplace	Future orientation
Occupation	Farm power	Religion	Risk orientation
Annual income	Social participation	Cosmo politeness	Value orientation
Family size	Communication factors	Credit- orientation	Economic motivation
Family type	Marital status	Constraints	Preference towards Agriculture
Education	Socioeconomic status	Information source	Basis of admission in agriculture
House holdings	Cropping patterns	Extent of fertilizer use	Expenditure on newspaper and magazine
Paper availability	Frequency of reading educational achievement of the respondent	Motive behind joining the course	Information source, etc.

4.3.3 Classification of Extension Education Researches according to the tools and techniques of data collection

Table 1.11: Distribution of theses according to the tools and techniques used for data collection in M.Sc. (n=127) and Ph.D. (n=37)

S.No.	Tools and techniques	M.Sc. (n= 127)		Ph.D. (n= 37)	
		Frequency	%	Frequency	%
1	Interview schedule	76.00	59.84	34.00	91.89
2	Questionnaire	22.00	17.32	02.00	05.40
3	Interview schedule and questionnaire	03.00	02.36	00.00	00.00
4	Interview schedules and secondary data	08.00	06.29	01.00	02.71
5	Not applicable	18.00	14.17	00.00	00.00
Total		127.00	100.00	37.00	100.00

Table 1.11 categorizes and displays the data collection tools and methodologies.

Table 1.11 shows that the majority of theses (59.84 %) used only interview schedule in their research studies, followed by questionnaire (17.32 %), combined use of interview schedule and questionnaire (2.36 %), and use of interview schedule & secondary data (6.29 %) as data collection tools and techniques. Data collection was not required in 14.17 percent of the theses.

When we look at PhD theses, we see that the majority of theses (91.89 %) used only interview schedule in their research studies, followed by questionnaire (5.40 %), and use of interview schedule & secondary data (2.70 %) as data collection tools and techniques.

Most of the researchers used interview schedules for data collecting in order to obtain more accurate data that is independent of whether respondents are literate or illiterate. **Similar findings were shown by Sujan (1986), Mehra and Trikha (1993), Singh and Gill (1993), Prolima and Kaushik (2000), and Singh et al. (2001).**

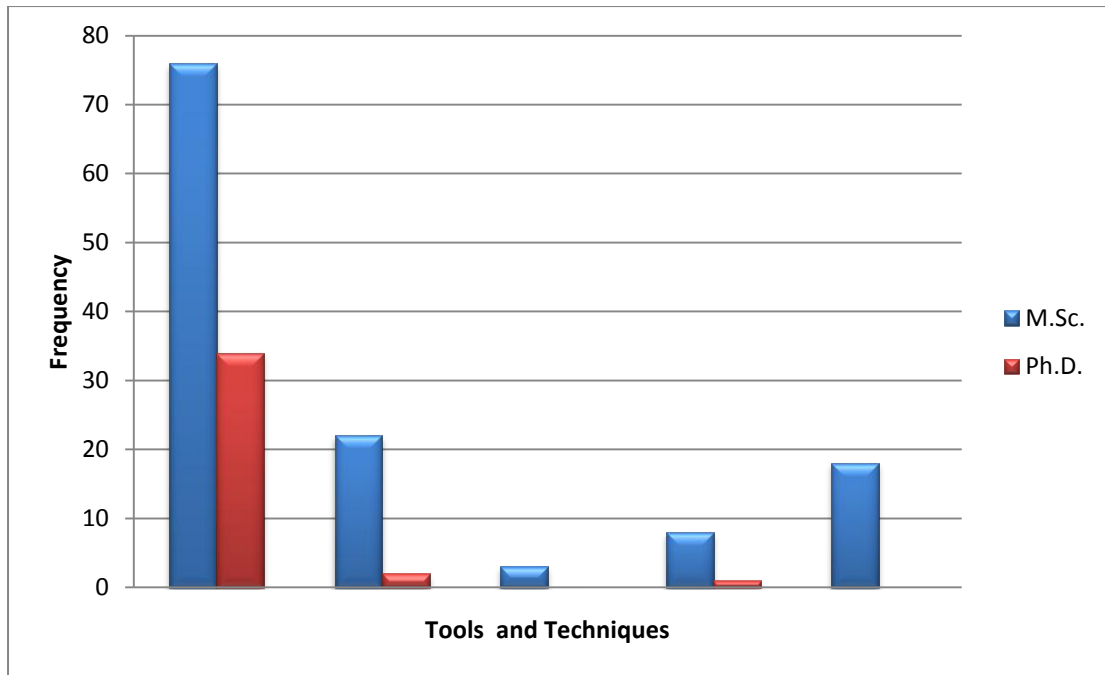


Fig. 12: Distribution of theses according to the tools and techniques used for data collection, in M.Sc. (n=127) and Ph.D. (n=37)

4.3.4 Classification of Extension Education Researches according to Statistics used

All of the theses' data have been evaluated using various statistical approaches. Table1.12 contains the details.

Table1.12 indicates that most of the common method of data analysis was percentage (81.88 %), followed by arithmetic mean (56.75 %), standard deviation (54.05 %), (48.64 %) for each frequency and Chi square test, coefficient of correlation (32.28 %), Chi-square test (17.32 %), regression analysis (12.59%), and ranking (11.81 %). Similarly, 9.44 per cent of respondents employed the t-test and multiple regressions, while 7.87 per cent utilized multiple correlations and weighted mean score. Only 6.29 per cent of theses employed the Mann-Whitney U test, with 5.51 per cent using the z-test, 3.93 per cent using the Garret ranking, 3.14 per cent using the Cumulative square root frequency approach, and 2.36 per cent using ANOVA and significance of core-coefficient.

Table 1.12: Distribution of theses according to the methods of statistical analysis used: (Note: *= multiple responses of the data).

S. No.	Statistical methods	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
		Frequency	%	Frequency	%
1	Frequency	72.00	56.69	18.00	48.64
2	Percentage	104.00	81.88	24.00	64.86
3	Mean	68.00	53.54	21.00	56.75
4	Standard deviation	57.00	44.88	20.00	54.05
5	Correlation coefficient	41.00	32.28	15.00	40.54
6	Regression analysis	16.00	12.59	06.00	16.21
7	Multiple regression	12.00	09.44	04.00	10.81
8	Weighted mean score	10.00	07.87	06.00	16.21
9	T- test	12.00	09.44	07.00	18.91
10	z- test	07.00	05.51	05.00	13.51
11	Chi- square test	22.00	17.32	18.00	48.64
12	Ranking	15.00	11.81	10.00	27.02
13	Multiple correlation	10.00	07.87	08.00	21.62
14	ANOVA	03.00	02.36	06.00	16.21
15	Coefficient of variance	01.00	00.78	01.00	02.70
16	Range	01.00	00.78	00.00	00.00
17	Significance of core- coefficient	03.00	02.36	01.00	02.70
18	Cumulative square root frequency method	04.00	03.14	08.00	21.62
19	Mann- whitney U test	08.00	06.29	11.00	29.72
20	Garret ranking	05.00	03.93	04.00	10.81
21	Mean percent square	01.00	00.78	00.00	00.00
22	Krushkalwallis test	00.00	00.00	07.00	18.91
23	Test of homogeneity of variance	00.00	00.00	01.00	02.70
24	Standard error of mean	00.00	00.00	01.00	02.70
Total		472.00*	371.65*	202.00*	545.94*

We can notice this when we look at PhD theses, most common method of data analysis was percentage (64.86%), followed by frequency (56.69%), arithmetic mean (53.54%), standard deviation (44.88%), coefficient of correlation (40.54%), Mann-Whitney U test (29.72%), ranking (27.02%). Similarly, 21.62 per cent of respondents employed the Cumulative square root frequency method and multiple correlations, while 18.91 per cent for each utilized krushkalwallis test& t- test, (16.21%) for each ANOVA, Regression analysis, and Weighted mean score, (13.51%) z- test. Only 10.81 per cent of theses employed the Garret ranks and multiple regressions, with 2.70 per cent each for using the Significance of core- coefficient, Coefficient of variance, Test of homogeneity of variance and Standard error of mean.

Most of the researchers utilize percentage since it is necessary to calculate the percentage at least in primary analysis of most data. **Similar finding were revealed by Sujan (1986), Mehra and Trikha (1993), and Prolima and Kaushik (2000).**

The majority of researchers prefer frequency to % since all of the acquired data must be marked in the form of a frequency distribution for subsequent analysis. **Thakur and Trikha (2002) came to similar conclusions.**

4.4 To evaluate limitations of previous theses

Table 1.13. indicates that the most common limitation of data analysis was time (73.22 %), followed by area (56.75 %), respondents (52.75 %), resources (47.24 %), budget (31.49 %), (25.19 %) for sample size, man power (24.40 %), whereas only (7.08 %) for gender and (2.36 %) for language.

Data regarding the Ph.D. researches reveal that most of the study limitation were time and respondent (75.60 %) followed by area (68.29 %), resources (53.65 %), and etc.

One of the main reasons for research time limitation nowadays is that M.Sc. and Ph.D. students are too busy with their various obligations, such as preparing for higher education and careers, to devote time to research. This is also due to the fact that respondents were too busy with their jobs. So they are not able to give time to the researcher.

Table 1.13: Limitations of M.Sc. and Ph.D. theses

S.No.	Category	Sub-category	M.Sc. Thesis (n=127)		Ph.D. Thesis (n=37)	
			Frequency	%	Frequency	%
1	Time	Limitation of time	93.00	73.22	31.00	75.60
		No limitation of time	34.00	26.77	10.00	24.39
2	Budget	Limitation of budget	40.00	31.49	16.00	39.02
		No limitation of budget	87.00	68.50	25.00	60.97
3	Resources	Limitation of resource	60.00	47.24	22.00	53.65
		No limitation of resource	67.00	52.75	19.00	46.34
4	Sample size	Limitation of sample size	32.00	25.19	09.00	21.95
		No limitation of sample size	95.00	74.80	32.00	78.04
5	Area	Limitation of area	72.00	56.69	28.00	68.29
		No limitation of area	55.00	43.30	13.00	31.70
6	Respondent	Limitation of respondent	67.00	52.75	31.00	75.60
		No limitation of respondent	60.00	47.24	10.00	24.39
7	Man power	Limitation of man power	31.00	24.40	21.00	51.21
		No limitation of man power	96.00	75.59	20.00	48.78
8	Gender	Limitation of gender	09.00	7.08	00.00	00.00
		No limitation of gender	118.00	92.91	00.00	00.00
9	Language	Limitation of language	03.00	2.36	00.00	00.00
		No limitation of language	124.00	97.63	00.00	00.00



SUMMARY AND CONCLUSION

Different people frequently criticize Agricultural Extension, its teaching, research, and service. The subject areas of extension study are sometimes seen to be repeated, duplicated, and not appropriate to the needs of farmers. It has remained a source of concern that extension research is rarely utilized to help farmers. According to the understanding of the researcher, there have been very few extension research studies that could help teachers, students, and practitioners in the field of agricultural extension. This question prompted the author to make an effort to classify, analyze, and record the works in order to provide documentation and facts for researchers in the area of extension science.

Since 1975, the Department of Extension Education at BHU has conducted M.Sc. (Ag.) and in 1984 Ph.D. courses in extension education. A review of all M.Sc. and Ph.D. theses in Extension Education submitted to the Department between 2010 and 2020 was undertaken in order to determine the direction of extension education research and the research methodologies used in the theses.

The purpose of this study, named "**Researches in Extension Education, B.H.U. - A Content Analysis**," The purpose of a content analysis is to determine the pattern of post-graduate and Ph.D. research studies, as well as the study design, methodologies and techniques, geographical distribution, and other contents of theses, with the following objectives:

1. To analyze the trends of research in the Department of Extension Education.
2. To study the research designs, locale, sampling procedure and sample sizes taken in the theses.
3. To document the nature of respondents, variables, tools of data collection and statistics used in the theses.
4. To record limitations of previous theses.

5.1 Methodology of Research

5.1.1 Research design

It is the goal of the investigation to find solutions to research challenges. Content analysis was used to gather relevant research in extension education based on the objectives set forth.

5.1.2 Locale of Research

The content analysis was conducted at the B.H.U. Institute of Agricultural Sciences in Varanasi, as reported in Chapter 3.

5.1.3 Sampling procedure

Using a purposive sampling procedure, all M.Sc.(Ag.) and Ph.D. (Ag.) research theses from 2010 to 2020 were considered for the study in order to discover the following:

5.1.3.1 Area of Research

In Chapter 4, there is a list of diverse areas and sub-areas of research in Extension Education.

5.1.3.2 Trends of Research

The number of theses completed every five years in the Department of Extension Education has been used to determine the trends in extension research.

5.1.4 Tools of Data Collection

The data was obtained by the researcher through personal review and observation of all the research works done by study in theses.

5.1.5 Data analysis

For accurate and relevant analysis and interpretation of the collected data, frequency and percentage were used.

5.2 Significant Findings

The following are the significant findings of the theses:

The study topics were divided into 16 areas after the analyzing all the theses. The most of the M.Sc. (Ag.) researches were done in the area of 'Adoption and Diffusion' i.e., (33.85 %), followed by ICT (29.92 %), social and psychological (22.04 %), Research & educational institution/ organization (12.58 %), Content analysis (11.81%), Extension methods and communication studies (11.79 %), Development projects/ programmes (11.02 %), in both Human resource development and Entrepreneurship development (7.87 %), Studies of gender, youth & children (7.86 %), Agricultural journalism (6.29 %), Environmental development (5.51 %), Training programmes of farmers (4.72 %), private extension (4.71 %), ITK (2.36 %), miscellaneous studies including livestock management, Rythu bazaar, case study, career dynamics (3.93 %), etc.

Data regarding the Ph.D. researches reveal that most of the study was done under 'Extension methods & communication studies' (24.00 %), followed by ICT (21.62 %), Studies of gender, youth & children (21.61 %), Adoption and Diffusion (18.91 %), Human resource management (16.21 %), Research & educational institution/ organization (13.50 %), Entrepreneurship development (10.81%), Development projects/ programmes (8.00 %), Private extension, Social & psychological dimensions and Training programmes of farmers (5.40 %), each Agricultural journalism, Environmental studies and ITK (2.70 %).

5.2.2 Trends of Research

The M.Sc. theses revealed a growing trend of research works completed in the Department of Extension Education from 2010 to 2012, a stable trend from 2012 to

2013, and a decreasing trend from 2013 to 2014. However, from 2014 to 2016, there is yet another upward trend. From 2016 to 2019, there is a downward tendency, followed by an upward trend from 2019 to 2020.

When it comes to PhDs, we can see that the theses indicate slightly increasing patterns of research effort in the department from 2010 to 2013, but a decreasing tendency from 2013 to 2014. However, from 2014 to 2015, there was yet another upward tendency. From 2015 to 2016, a declining trend was noticed, followed by a rising trend from 2016 to 2018, but from 2018 to 2019, a falling trend was recorded, followed by an increasing trend from 2019 to 2020.

5.2.3 Research design

Majority of M.Sc. theses (42.51 %) used ex-post-facto as a research design, followed by exploratory research design (26.77 %), and descriptive research design (6.30 %). Only 3.14 percent and 1.60 percent of these, respectively, used evaluatory and experimental study designs. The majority of them (19.68 %) failed to mention the study designs that the researchers utilized in their investigations.

Data regarding PhD theses, we see that the majority of them (64.90 %) used ex-post-facto research design, followed by exploratory research design (21.60 %), while 5.40 per cent used analytical research design, 2.70 percent used descriptive research design, and 5.40 percent did not mention the research designs used by the researchers for their studies.

5.2.4 Locale of the study

Most of the M.Sc. researches were carried out in Uttar Pradesh (48.81 percent), followed by Bihar (8.66 per cent), Rajasthan (5.51 %), while Nepal accounted for only 4.72 percent, with Telangana and Karnataka each accounting for 3.14 per cent whereas only 2.36 per cent each for Uttarakhand and Tamil Nadu followed by 1.57 per cent each for Andhra Pradesh, Jharkhand, and Orissa.

Majority of the Ph.D. studies were conducted in Uttar Pradesh (59.45 %), followed by Uttarakhand (10.81 %). Bihar accounted for 8.10 per cent of all research projects, while Madhya Pradesh accounted for only 5.40 per cent, with Rajasthan, Andhra Pradesh, Jharkhand, Tamil Nadu, Chhattisgarh, and Iraq each accounting for 2.70 per cent.

5.2.5 Sampling procedure

Majority of M.Sc. theses (48.81%) had no information about the sampling procedures used for selecting the states, followed by 37.79 per cent of theses that used purposive sampling to select the states, 11.81 per cent of theses that did not select any particular state and 1.57 per cent that used random sampling to select the states.

Data regarding PhD theses, we see that the majority of theses (67.56 %) used purposive sampling to select the state, whereas (32.43 %) no information about the sampling procedures used for selecting the states.

Majority of M.Sc. theses (56.69 %), whereas 25.98 per cent of theses did not mention the sample strategy used to choose the districts. Only 11.81 per cent of researchers did not choose a specific district for their investigations, while 5.51 per cent chose districts using random sampling methods.

When we look at Ph.D. theses, we see that the majority of theses (78.37 %), whereas 5.40 per cent of theses did not mention the sample strategy used to choose the districts. Only 16.21 per cent chose districts using random sampling methods.

Majority of researchers (61.41 %) used random sample approach to select respondents, whereas 14.17 per cent of theses no respondents and 10.23 per cent of theses no information regarding the sampling methods used to pick respondents, whereas (7.87 %) used purposive sample approach to select respondents. Only 1.57 per cent of these were done using the census approach, whereas 4.72 per cent used combination of sampling procedures to choose the respondents.

When we look at PhD theses, we see that the majority of researchers (91.89 %) used arandom sample approach to select respondents, whereas (5.40 %) used purposive sample approach to select respondents. While 2.70 per cent of theses had no information regarding the sampling methods used to pick respondents.

5.2.6 Number of respondents (sample size)

The majority of M.Sc. theses (40.15%) had respondents ranging from 101 to 150, whereas 21.25 percent of theses had respondents ranging from 51 to 100. There were no respondents in 14.17 percent of theses. Following that, 11.02 percent of theses had fewer than 51 responses, while 2.36 per cent had more than 250. The studies included a minimum of 25.

Data regarding PhD theses, we see that the majority of theses (45.94 %) had respondents ranging from 151 to 200, whereas 24.32 percent of theses had respondents ranging from 201 to 250. Following that, 16.21 per cent of theses had more than 250 respondents, while 2.70 per cent had fewer than 51 responses. The studies included a maximum of 500 participants and a minimum of 25.

5.2.7 Nature of the respondent

Majority of the study base on common respondents (39.37 %), followed by university students (14.17 %), members of SHGs and NGOs (5.51 %), rural women (4.72 %), and non-farmer village residents (3.93 %), and a combination of respondents (4.72 %). Only 5.51 per cent of thesis included members of SHGs and NGOs as responders, compared to 2.36 per cent for school students, city people, and trainers, and only 1.57 per cent for tribal women and teachers. There were no respondents for 14.17 per cent of theses.

Data regarding PhD theses, we see that the farmers were the most common respondents (48.64 %), followed by a combination of respondents (10.81 %), members of SHGs and NGOs (8.10%), whereas (5.40 % each) in university students, rural women, non-farmer village residents, and teachers. Only 2.70 per cent each of

thesis included tribal women, government official, city people, and gram Panchayat leaders as responders.

5.2.8 Variables taken

Majority of theses (23.62 %), followed by awareness (18.89 %), and adoption (17.32 %). The dependent and independent variables were not clearly distinguished in 12.59 per cent of the M.Sc. theses.

Data regarding PhD researches, we see that knowledge was utilized as one of the dependent variables in the majority of theses (24.62 %), followed by adoption, attitude and constraints (8.10% each). Whereas (5.40% each) opinion, awareness, communication behavior and technological gap. The dependent and independent variables were not clearly distinguished in 5.40 per cent of the theses.

5.2.9 Tools of data collection

Majority of M.Sc. theses (59.84 %) used only interview schedule in their research studies, followed by questionnaire (17.32 %), combined use of interview schedule and questionnaire (2.36 %), and use of interview schedule & secondary data (6.29 %) as data collection tools and techniques. Data collection was not required in 14.17 percent of the theses.

When we look at PhD theses, we see that the majority of theses (91.89 %) used only interview schedule in their research studies, followed by questionnaire (5.40 %), and use of interview schedule & secondary data (2.70 %) as data collection tools and techniques.

5.2.7 Statistics used

Most of the common method of data analysis was percentage (81.88 %), followed by arithmetic mean (56.75 %), standard deviation (54.05 %), 48.64 per cent for each frequency and Chi square test, coefficient of correlation (32.28 %), Chi-square test (17.32 %), regression analysis (12.59%), and ranking (11.81 %). Similarly,

9.44 per cent of respondents employed the t-test and multiple regressions, while 7.87 per cent utilized multiple correlations and weighted mean score. Only 6.29 per cent of these employed the Mann-Whitney U test, with 5.51 per cent using the z-test, 3.93 per cent using the Garret ranking, 3.14 per cent using the Cumulative square root frequency approach, and 2.36 per cent using ANOVA and significance of core-coefficient.

We can notice this when we look at PhD theses, the most common method of data analysis was percentage (64.86 %), followed by frequency (56.69 %), arithmetic mean (53.54 %), standard deviation (44.88 %), coefficient of correlation (40.54 %), Mann-Whitney U test (29.72 %), ranking (27.02 %). Similarly, 21.62 per cent of respondents employed the Cumulative square root frequency method and multiple correlations, while 18.91 per cent for each utilized krushkalwallis test & t- test, (16.21 %) for each ANOVA, Regression analysis, and Weighted mean score, (13.51 %) z- test. Only 10.81 per cent of these employed the Garret ranks and multiple regressions, with 2.70 per cent each for using the Significance of core- coefficient, Coefficient of variance, Test of homogeneity of variance and Standard error of mean.

5.3 Limitations of previous theses

Maximum limitation of data analysis was time (73.22 %), followed by area (56.75 %), respondents (52.75 %), resources (47.24 %), budget (31.49 %), (25.19 %) for sample size, man power (24.40 %), whereas only (7.08 %) for gender and (2.36 %) for language.

Data regarding the Ph.D. researches reveal that most of the study limitations were time and respondent (75.60 %) followed by area (68.29 %), resources (53.65 %).

5.4 Conclusion

Extension education is a tool to bring out desirable changes in knowledge, skill and attitude of farmers for more income, more production and better living. The research on the topic is very significant to know the direction and content towards which the topic is oriented.

The study undertaken at BHU provides an opportunity to recognize the present situation of extension research. It's important to note that the study has covered a wide range of areas, from agriculture to health, innovation, and from primary school to higher education. Extension methodologies and communication technologies, as well as social and psychological factors, adoption and diffusion, ICT, have all been researched frequently. The Department of Extension Education at BHU has conducted research in areas such as gender, ICT, human resource development, indigenous approaches, agriculture journalism and private extension. The majority of the research was conducted in the Indian states of Uttar Pradesh, Bihar and Uttarakhand.

The fact that the majority of the research undertaken at BHU's Department of Extension Education is based on rural or village people, who are the core of extension, is cause for concern.

The outcomes of the sampling technique, the conceptualization of variables, and statistics were not sufficient. It appears that the majority of post-graduate scholars are unaware of and unconcerned about this issue. It was discovered that sample processes and variables are not clearly stated, classified, operationalized, or specified. Various statistical tools appeared to be inappropriate or unsuitable for the objectives and variables in many studies. The majority of the studies had a small sample size of people. This indicates a weak trend in social science research, as small samples are more prone to error.

Most of the areas like Entrepreneurship development, Training programmes of farmers, climate change, case study, career dynamics, study of gender youth & children, ITK, Agricultural journalism and Private extension need attention in the extension education research studies for future prospects of the students, teachers and the researchers. The study designs utilized by each researcher should be mentioned. There is a need for more research in states other than Uttar Pradesh, Bihar and Uttarakhand.

5.4 Suggestions

The following recommendations are given based on research findings and field experience:

- 1) To reduce the gap between farm and lab, priority should be given to field-oriented research.
- 2) More research should be completed on remote areas and on different states
- 3) Studies on Gender, youth, marginal farmers, and landless labours studies should be given weightage.
- 4) A Training programme or orientation on research approaches and methodology is required.
- 5) A serious effort is required for research as it leads to significant.
- 6) Students should be offered research incentives in the form of scholarships to motivate and encourage them to participate in research programmes. However students who get the scholarship should use in the research purpose.
- 7) Statistical methods orientation should be performed on a regular basis to keep students up to speed and proficient in statistical processes.
- 8) The author was unable to investigate the bibliographical features of the studies, which should be investigated by other researchers in order to broaden their research expertise.
- 9) Due to a lack of time, the author was unable to investigate the research trends on each of the topics mentioned. As a result, we expect future researchers to be aware of the pattern of study on each key issue across time, which will help us in understanding the position, achievement, and direction of extension research. For example trends on adoption research, gender and KVK researches should be conducted.



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MASTER SHEET

S.NO.	Particulars
1.	Research Topics
2.	Year
3.	Area of research
4.	Sub –area of research
5.	Research design
6.	Locale of research (state)
7.	Sampling procedure
	(a) For state
	(b) For district
	(c) For respondents
8.	Number of respondents
9.	Nature of respondents
10.	Dependent variable
11.	Independent variable
12.	Tools for data collection
13.	Statistics used

List of M.Sc. (Ag.) theses submitted in the Department of Extension Education from the year 2010 to 2020:

1. Functional knowledge and state of stratification among SHGs members in Mankapur Block of Gonda district , Uttar Pradesh. (2010)
2. Media utilization behavior of ATMA farmer's of Bihar. (2010)
3. Content analysis of Indian Journal of Extension Education. (2010)
4. A study on climate change communication. (2010)
5. Academic climate among student of agriculture domain in BHU. (2010)
6. Women image in Journalism. (2010)
7. A study on credit behavior of members of SHGs in Chakia Block of Chandauli district Uttar Pradesh. (2010)
8. A study on Social media. (2011)
9. A study on the use of information and communication technology (Through interval) in Tansen Municipality of Palpa district Nepal. (2011)
10. A study on village knowledge center of union Bank of India, Chandauli. Uttar Pradesh. (2011)
11. A study on E- learning among agriculture students of BHU. (2011)
12. Research in Extension Education – A case study at BHU.(2011)
13. Internet uses and Gratification – a survey in BHU. (2011)
14. State of awareness and attitude towards the RTI Act (Right to information Act). (2011)
15. Use and Abuse of mobile phones. (2011)
16. Assessing information and communication technology competence Teachers of Institute of Agricultural Sciences, BHU. (2011)
17. A study on mobile learning in Shivrajpur Block of Kanpur district, Uttar Pradesh. (2011)

18. A comparative study of agricultural information published selected Indian National and Regional dairies – A content analysis. (2011)
19. Musahar of Buxar – A profile study. (2012)
20. A study of farmer’s training programme of K.V.K in Vaishali district of Bihar. (2012)
21. Mobile learning in Foothills of Himalaya- A study in Kumaon region. (2012)
22. Knowledge about resource conservation technology among the farmers of Varanasi. (2012)
23. A study on communication network at village level in district Kapilvastu Nepal. (2012)
24. A study on environmental awareness among rural high school children in Guna district of Madhepura. (2012)
25. Self help groups- A means to empower rural: A study in Chakia block of Chandauli district Uttar Pradesh. (2012)
26. A study of women empowerment in Harahua block, district Varanasi, Uttar Pradesh. (2012)
27. A study on content and coverage of magazine “YOJANA”. (2012)
28. Impact assessment of ICTs mediated agricultural Extension service in Vindhyan region of Uttar Pradesh. (2012)
29. Constraint analysis of Rice farmers of Thanjavur district of Tamil Nadu. (2012)
30. A study on Agri-clinics and agri-business centres in Varanasi district of Uttar Pradesh. (2012)
31. Rythu Bazaar in Vishakhapatnam; A perception study of farmers and consumers. (2013)
32. Technological gap among rice grower in Etawah district of Uttar Pradesh. (2013)

33. Impact of Governmental programmers on the empowerment of rural women at household level: A study in Varanasi district Uttar Pradesh. (2013)
34. A study on technological gap of dairy farming in Varanasi district of Uttar Pradesh. (2013)
35. A study on E- resources among the students of Extension Education IAS, BHU. (2013)
36. Indigenous technological knowledge on plant protection in vegetable in eastern part of Uttar Pradesh. (2013)
37. A study on information KIOSKS: Awareness of respondents. (2013)
38. Technological gap in cotton production technology among the growers of Sriganganagar district of Rajasthan. (2013)
39. A study on perception and usefulness of seed village program for soya bean crop among beneficiary farmers of Indore block of Indore district Madhya Pradesh. (2013)
40. A study on career dynamics in Extension Education. (2013)
41. A study on marketing channels for farmers in Harhua block of Varanasi district, Uttar Pradesh. (2013)
42. A study on knowledge adoption and marketing of flowers in Varanasi district of Uttar Pradesh. (2013)
43. Readability: A means of effective communication for farmers. (2013)
44. Adoption behavior of farmers toward rice production technology in Samastipur district of Bihar. (2014)
45. Use of mobile phone for farming in Lakhnaur block Madhubani district of Bihar. (2014)
46. Rural development and economic issues coverage: Content analysis of magazine YOJANA. (2014)
47. Study on entrepreneurial behavior of sugarcane growers in Narsinghpur district of Madhya Pradesh. (2014)

48. A study on issues and activities related to Agricultural Extension in social media. (2014)
49. Decision making process in government and NGO Krishi vigyan Kendra in Hanumangrh district Rajasthan. (2014)
50. A study of pattern of social networking sites used by Post graduate agriculture students of IAS, BHU. (2014)
51. Internet use competence of students in BHU. (2014)
52. A study on awareness regarding agricultural legislation. (2014)
53. Awareness and adoption of crop insurance in Nichlaul Tehsil Maharajganj district, Uttar Pradesh. (2014)
54. Access and use of ICT tools by post graduate agriculture students of BHU. (2014)
55. Content analysis of Journal of global communication. (2015)
56. ICT competence of students: A study in institute of agricultural sciences, BHU. (2015)
57. Student's perception towards e- learning: A study in institute of agricultural sciences, BHU. (2015)
58. A study on news media. (2015)
59. A study of women empowerment in Bakhri block of Begusarai district of Bihar. (2015)
60. A student on ICTs in Livelihood in Lallapura cluster of Varanasi. (2015)
61. A study on knowledge, adoption and gap analysis of recommended cultivation practices of cauliflower in Bokaro district of Jharkhand. (2015)
62. Case study of Agripreneurs in East Champaran district of Bihar. (2015)
63. Uses of media among under graduate agricultural students of BHU. (2015)
64. A study on perception of students towards the cultural goods and services in the digital Era of institute of agricultural sciences, B.H.U. Varanasi. (2015)

65. A study of career opportunity in agriculture. As perceived by B.H.U. post graduate agricultural students. (2015)
66. A study on knowledge about technical competency of digital empowerment of post graduate students of institute of agricultural sciences, BHU.(2016)
67. Climate change impact of agriculture and adoption strategies of farmers.(2016)
68. A study on women empowerment through SHGs in Tentulikhunti block of Nabarnpur district, Odisha.(2016)
69. A study on knowledge about legal aspects of digital empowerment among students of institute of agricultural sciences, BHU. (2016)
70. A study on use of mobile phone technology (smart phone) by the farmers of Nagaur district in Rajasthan. (2016)
71. A study on e- learning among the post graduate students of Banaras Hindu University. (2016)
72. A study on Grape grower in Vijaypur district of Karnataka. (2016)
73. A study on psychological aspects of digital empowerment among students of institute of agricultural sciences, BHU. (2016)
74. A study on economic aspects of digital empowerment of under graduate students, institute of agricultural sciences, BHU. (2016)
75. A study on perception of post graduate students of institute of agricultural sciences, BHU towards agricultural education. (2016)
76. A study on IN- TENSION of EX- TENSION. (2016)
77. A study on knowledge and adoption of urd crop production technology by farmer of Mirzapur district U.P. (2016)
78. International journal of communication a Bibliometric study. (2016)
79. A study on indigenous technical knowledge prevalent in Saidpur block of Ghazipur district, U.P. (2016)

80. A study on gender bias in access to information and communication technology. (2016)
81. A profile study of villagers in Kashi vidyapeeth block of Varanasi District. (2017)
82. Indian journal of agricultural sciences: A Bibliometric study. (2017)
83. Research conducted on Extension communication methods, in BHU – A content analysis. (2017)
84. A study on reforms in agricultural education as perceived by students and teachers of BHU, Agriculture faculty. (2017)
85. A study on awareness and adaptation strategies of climate smart agriculture in Sultanpur district of U.P. (2017)
86. A study effect of social media intervention on knowledge level of agricultural input dealers. (2017)
87. A study on different farming systems adopted by the farmers in the rainfed area of Vindhyan zone. (2017)
88. A study of women empowerment in Madhubani district , Bihar. (2017)
89. A study on analysis of rural women entrepreneurs in Varanasi district of U.P. (2017)
90. A study on knowledge and adoption of Okra crop production technology by the farmers of Varanasi district, U.P. (2017)
91. A study of farmer's training programmes of KVK in Varanasi district, U.P. (2017)
92. A study on empowerment of rural women in Varanasi district. (2018)
93. A study on entrepreneurial behavior of Dairy farmers in Varanasi district, U.P. (2018)
94. A profile study of the Mitra farmers in Sabaldiha block, Chandauli district of U.P. (2018)

95. A study on participation of farm women in agricultural and allied activities in Varanasi district of U.P. (2018)
96. A Bibliometric study of journal of Extension. (2018)
97. A content analysis of journal of communication studies. (2018)
98. Media utilization behavior of students of IIT (BHU) Varanasi: An exploratory study. (2018)
99. A study on perception of teachers in agricultural universities of India towards creating a new department of agricultural education. (2018)
100. A study on awareness and adoption of crop insurance scheme in Kapilavastu district of Nepal. (2018)
101. A study on entrepreneurial behavior of chilli growers in Khamman district of Telangana state. (2018)
102. A study on change in knowledge of agricultural input dealers on pesticide act through social media intervention. (2018)
103. A study on awareness of extension service providers regarding In- Tension of Ex- Tension in Hanumangarh district of Rajasthan. (2018)
104. A study on knowledge and adoption of cultivation practices of area NUT by the farmers in Chikmagalur district of Karnataka state. (2019)
105. A study on awareness and adoption strategies of farmers about climate change in Sriganagar district of Rajasthan. (2019)
106. A selective study of information communication technology (ICT) projects by farmers of Tumkur district of Karnataka. (2019)
107. Perception of farmers of Varanasi toward Kisan call centre. (2019)
108. Utilization pattern of mobile phone technology among farmers of Varanasi district U.P. (2019)
109. Effect of digitized educational effects on female students of B.H.U. towards their academic performance. (2019)

110. Documentation of indigenous technical knowledge in Chopan block Sonbhadra district in U.P. (2019)
111. Study on knowledge about women development programmes among rural women of Varanasi. (2019)
112. A study on the utilization pattern of ICTs for selected pulse crop in Banda district of U.P. (2019)
113. A study on adoption of different varieties of Banana in Dang district of Nepal. (2019)
114. A study on seed replacement rate of paddy in Chandauli district of U.P. (2019)
115. Women empowerment through floriculture in Dimpur village (Chiraigaon block), Varanasi U.P. (2020)
116. A study on climate change information need of Rice growers of Odisha. (2020)
117. Study on awareness and utility pattern of national electronic market (e- NAM) in Dausa and Tonk district of Rajasthan. (2020)
118. Perception of agricultural sciences students towards privatization of higher agricultural education. (2020)
119. A study on the perception of the farmers on debt waiver scheme in Churu district of Rajasthan.(2020)
120. Assessments of effectiveness of training programme of KVK on farmers trainees in Shaharanpur district of U.P. (2020)
121. Attitude of rural women towards higher education of rural girls of district Varanasi, U.P. (2020)
122. A study on farm based enterprises in agricultural development at Sanga Reddy district of Telangana state. (2020)
123. A study on input dealers in Nagarkurnool and Wanaparthy district of Telangana. (2020)

124. A study on entrepreneurial behavior of Makhana grower in Madhubani district of Bihar. (2020)
125. A study on change in socio- economic situation of primary producers after the Odisha Ikat getting geographical indication (GI) registration in Jajpur district of Odisha. (2020)
126. A study on ICT mediated extension service in Arghakhanchi district of Nepal. (2020)
127. A study on farmer awareness toward ill- effect of agrichemicals in Dhanapur block of Chandauli district, U.P. (2020)
128. A study on role of women in managing economy of families in rural areas of Telengana.(2020)
129. Performance appraisal of women self help groups in Rolpa district of Nepal. (2020)
130. Outcomes of KVK training programmes- A study on KVK Mirzapur.

List of PhD. (Ag.) theses submitted in the Department of Extension Education from the year 2010 to 2020

1. A study of model on communication and adoption behavior of paddy growers of Banka district of Bihar. (2010)
2. Documentation and scientific rational of indigenous agricultural knowledge in the tribal setting of Lakhimpur Khiri district. (2010)
3. Role of Ram Krishna mission in development of sustainable livelihood strategy of tribal farmers in Chhattishgarh. (2011)
4. Information need of the rural families: A study in Nagara block of Ballia, U.P. (2011)
5. A study on entrepreneurial behavior of members of self help groups in Hathras district U.P.(2012)
6. Traditional folk media prevalent in Kumaon region of Uttarakhandi – A critical study. (2012)

7. A study on market- led extension system in Varanasi district U.P. (2012)
8. Assessing developmental programmes among rural people of Kashi vidyapeeth block: An action research. (2013)
9. Training needs of vegetable growers of Jaunpur district of U.P. (2013)
10. A study on e- readiness of KVK functionaries in U.P. (2013)
11. Role of extension centers in farmers training in the southern provinces of Iraq. (2014)
12. A study on self help groups in Sultanpur distict of U.P. (2014)
13. A study on interest pattern and behavior of entrepreneurship among the rural women in Faizabad district of U.P. (2015)
14. An evaluative study of vegetable farmers on safe plant protection measures in Eastern U.P. (2015)
15. Lisure time activities of the rural youth critical analysis. (2015)
16. Communication and marketing behavior of tribal vegetable growers: A study in Ranchi district of Jharkhand state. (2015)
17. A study on ATMA in transfer of technology in Varanasi district of U.P. (2015)
18. Empowerment of Tharu farm women in tribal setting of Uttarakhand. (2016)
19. An analysis of agripreneure in Andhra Pradesh, India. (2016)
20. A study on social computing among students agricultural sciences in Varanasi. (2017)
21. A study on digital empowerment of digital natives. (2017)
22. A study on post harvest management practices among the Mango growers in Lucknow district U.P. (2017)
23. A study on SRI technology in Cauvery delta region of Tamil Nadu. (2017)
24. Soft power of extension services and its effectiveness in Eastern U.P. (2018)
25. A study on KVK training for rural women in Varanasi region of U.P. (2018)

26. Alternative education: A study on kumaon division, Uttarakhand. (2018)
27. A study on Kashi gomti sanyut gramin bank(RRB) in Varanasi district of U.P. (2018)
28. A study on knowledge and adoption of improved maize production technology in Saharasa district of Bihar. (2018)
29. Utilization of ICT tools by KVK staff and Farmers in central U.P. (2018)
30. A study on use of mobile phones by the farmers of Mirzapur district of U.P. (2019)
31. A study of responses and strategies adopted by farmers in Varanasi. U.P. (2019)
32. A study on knowledge and attitude of farmers towards GM crops in Khandwa district of M.P. (2020)
33. A study on women farmers in tribal setting of Uttarakhand. (2020)
34. A study on ATMA of Madubani district, Bihar. (2020)
35. A study on agri-preneurial behavior of flower growers in Varanasi district of U.P. (2020)
36. A study on scientific temperament of mustard growing farmers in Jaipur district of Rajasthan. (2020)
37. Role of mobile phone usages in rural women's empowerment: A study in Varanasi district of U.P. (2020)

