A Study on Attitude of Rural youth regarding participation in agricultural activities of Patan Block of Jabalpur District (M.P.)

THESIS

Submitted to the

Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur

In partial fulfillment of the requirements for the Degree of

MASTER OF SCIENCE

In

AGRICULTURE

(AGRICULTURE EXTENSION)

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2015

CERTIFICATE – I

This is to certify that the thesis entitled ***"A Study on Attitude of Rural youth regarding participation in agricultural activities of Patan Block of Jabalpur District (M.P.)"*** *submitted in partial fulfilment of the requirement for the degree of* ***MASTER OF SCIENCE (Ag.) in AGRICULTURE EXTENSION*** *of the Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, is a record of the bonafide research work carried out by* ***Mr. DEBASIS JAYAPURIA*** *under my guidance and supervision. The subject of the thesis has been approved by the Student's Advisory Committee and the Director of Instruction.*

All the assistance and help received during the course of the investigation has been acknowledged by him.

Place: Jabalpur

Date: **(Dr. N.K. Khare)**

Chairman of the Advisory Committee

THESIS APPROVED BY THE STUDENT'S ADVISORY COMMITTEE

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Chairman	**Dr. N.K. Khare**	.....
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CERTIFICATE - II

This is to certify that the thesis entitled ***"A Study on Attitude of Rural youth regarding participation in agricultural activities of Patan Block of Jabalpur District (M.P.)"*** *submitted by* ***DEBASIS JAYAPURIA*** *to the Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, in partial fulfillment towards the requirements for the degree of* ***MASTER OF SCIENCE IN AGRICULTURE (Agriculture Extension)*** *in the Department of* ***EXTENSION EDUCATION*** *has been, after evaluation, approved by the External Examiner and by the Student's Advisory Committee after an oral examination on the same.*

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Date: Chairman of the Advisory Committee

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Director of Instruction	**Dr. G.S. Rajput**	.....

Declaration and Undertaking by the Candidate

I, Debasis Jayapuria S/o Shri Debendra Jayapuria Certify the work embodied in thesis **"A Study on Attitude of Rural youth regarding participation in agricultural activities of Patan Block of Jabalpur District (M.P.)"** entitled is my own first hand bonafide work carried out by me under the guidance of Dr.N.K.Khare**,** Professor and Head at Department of Extension Education, College of Agriculture, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur and place during 2014-2015.

The matter embodied in the thesis has not been submitted for the award of any other degree / diploma. Due credit has been made to all the assistance and help.

I, undertake the complete responsibility that any act of misinterpretation, mistakes and errors of fact are entirely of my own.

I, also abide myself with the decision taken by my advisor for the publication of material extracted from the thesis work and subsequent improvement, on mutually beneficial basis, provided the due credit is given, thereof.

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Place: Jabalpur

Date: **(Debasis Jayapuria)**

CURRICULUM VITAE

The author of this thesis **Mr. DEBASIS JAYAPURIA S/o Shri Debendra Jayapuria** was born on 25th NOV 1990 at Cuttack (Odisha). He passed his High School Certificate Examination from, Kendriya Vidyalaya and Higher Secondary School Certificate Examination from KBR college (Odisha) with first division.

After this he joined the college of Agriculture, OUAT, Bhubaneswar (Odisha) in the year 2009 and successfully completed the degree of B.Sc. (Ag.) during the year 2013, and then he got admission in M.Sc. (Ag.) for specialization in Extension Education at College of Agriculture, JNKVV, Jabalpur where he successfully completed the entire course requirement for master's degree during the year 2014-2015

For the partial fulfillment of the master's degree programme he was allotted a research problem **"A Study on Attitude of Rural youth regarding participation in agricultural activities of Patan Block of Jabalpur District (M.P.)"** on which was successfully conducted by him and being submitted in the form of this thesis.

DEBASIS JAYAPURIA
(Student)

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INTRODUCTION

Every nation looks forward to the younger generation for its growth and development. Youth is an important and vital segment of human resources which is not only today but in future will have to shoulder responsibility for the development which includes agriculture and rural sectors. Realizing the potential of youth power, the United Nations declared 2011 as the 'International Year of Youth' in which the issue of making farming attractive to youth was deliberated vigorously.

According to population census 2011, India had total youth population of 325.2 millions, which is 35% of the total population. Out of this, about 70% were rural youth and remaining 30% were urban youth. As majority of the youth comes from rural areas, they are considered as the nation builders of tomorrow. This important section of the rural population can respond to the needs of country only if they are offered fruitful opportunities for growing up as useful citizens.

With a growing world population and a decreasing agricultural productivity in combination with a rural exodus, India is losing more than 2000 farmers every single day and that since 1991, the overall number of farmers has dropped by 15 million (Sainath, 2013). This has several implications for the future of Indian agriculture and India’s food security. Rural youth can play an important role in ensuring food security if they are encouraged to involve in farming and the challenges they face are addressed. Over the past few years, rural youth have been shying away from agriculture and globally there is an increasing interest in finding ways of engaging youth in agriculture (IFAD, 2012; Paisley, 2013). Currently, there is a challenge of retaining youngsters in agriculture due to various socio-economic factors, including profitability in agricultural pursuits. It has become imminent to reorient agricultural practices to make them intellectually satisfying and economically rewarding for the youth. Nearly 70% of India's population is below the age of 35 years making India the youngest nation in the world and interestingly 70% of them live in rural areas. In 2020, the average Indian will be only 29-years-

old, whereas in China and the United States of America the average age is estimated to be 37 years. We may utilize this demographic dividend for taking Indian agriculture to new heights by channelizing the creative energies of the youth through development of skills, knowledge and attitudes.

Keeping this frame of working in view this “A study on Attitude of Rural youth regarding participation in agricultural activities of Patan block of Jabalpur district (M.P)” was undertaken with following specific objectives:-

Objectives of the study:

1. To study the socio-personal, economical, communicational and psychological attributes of rural youth.
2. To find out the attitude of rural youth regarding participation in agricultural activities.
3. To find out the association between independent with the dependent variable.
4. To find out constraints and suggestions for enhancing the participation of rural youth in agriculture.

Importance of the study:

Development of youth determines the development of community and country. Generally rural youth were selecting those areas which are highly activated for generating their income and which facilitate them with the economy.

Agriculture as a profession is not attracting the rural youth due to low productivity, high uncertainty, and less return. Rural youth enter in farming due to compulsion of their traditional occupation not their own interest. The aim of this study is to detect factors which could possibly affect the attitude of rural youth with reference to agricultural participation by taking several factors like personal, economical, communicational and psychological.

Scope of the study:

The thesis is most useful base study and reference for future planning to the research scientists, students, planning organizations, educational institutions and government of Madhya Pradesh. This study included the

attitude of rural youth towards agricultural participation which helps to know the factors behind the shying away from agriculture. This study also contains constraints and feedback information received from rural youth can be utilized for future research and development schemes and the investigator who will undertake such studies in future.

Limitation of the study:

The study was confined to only in Patan block of Jabalpur district of Madhya Pradesh state. So the generalization made based on the findings of the study may not be directly applicable to other areas. The study was limited to the verbal response of the respondents. Hence, deviation from the fact might be here. However, all possible efforts were made by the researcher to collect accurate and factual information from the respondents.

Organization of the study:

. The study is organized into six chapters. The first chapter of the study deals with introduction which contains its objectives, importance, scope, limitation and organization of the study. Review of literature has been discussed in second chapter. The third chapter describes materials and methods used in this study. The fourth chapter comprises of results of study. The findings along with discussions are discussed in chapter five and chapter six contains summary, conclusions and suggestions for further work of the study.

* * * * * * *

REVIEW OF LITERATURE

Review of literature is an evaluative report of information found in literature related to study. It should give a theoretical base for research and help researchers to determine the nature of research. It also provides a basis to theoretical framework in addition to help researcher to get an insight into methods and procedures. Thus, a comprehensive review of literature is an essential and an eventual part of any investigation. This chapter presents the findings of the past research work related to present study by viewing the research journals, articles, magazines, published books, thesis and records in order to put up to date information, under the following sub-heads:

I. Socio-personal and economical attributes of rural youth.
II. Socio-communicational attributes of rural youth.
III. Socio-psychological attributes of rural youth.
IV. Attitude regarding participation in agriculture.
V. Association between independent with dependent variable.
VI. Constraints and suggestions for enhancing the participation of rural youth in agriculture.

I. Socio-personal and economical attributes of rural youth:

1. Age:

Mishra et al. (2007) stated that 61 per cent respondents were found belonging to middle age category i.e. 24 to 29 years old.

Nashi and Jahagirdar (2011) reported that maximum (53 per cent) rural youth having middle age group.

Umeh and Odon (2011) revealed that maximum number of respondents was found less than 30 years old age group.

Rashid and Gao (2012) stated that majority of respondents (64.7 per cent) were between ages of 25 to 29 years old followed by 18 to 24 years old (22.4 per cent) and 30-35 years old (12.9 per cent) respectively.

Kimaro et al. (2015) revealed that 64.21 per cent respondents were young age group.

2. Caste:

Mishra et al. (2007) found that maximum respondents were found belonging to General caste.

Mourya et al. (2009) revealed that 57.5 per cent belonged to OBC, followed by SC (10 per cent), ST (20 per cent) while remaining 12.50 per cent were General caste.

Nashi and Jahagirdar (2011) found that maximum respondents were General caste.

Angaitkar et al. (2013) found that maximum respondents were belonged to OBC (53.8 per cent) followed by General caste (29.5 per cent), ST (10 per cent) and SC (6.7 per cent).

3. Type of family:

Grewal et al. (2007) revealed that maximum number of rural youth had nuclear family.

Njoku and Ajaero (2007) found that 56 per cent of the respondents lived in nuclear type of family.

Singh and Singh (2009) stated that maximum (58.2 per cent) rural youth belonged to joint family rather than nuclear family.

Angaitkar et al. (2013) found that (59 per cent) maximum respondents belonged to nuclear family and 41 per cent of respondents belonged to joint family.

4. Size of family:

Kumar and Singh (2007) revealed that 64.3 per cent of rural youth had medium size of family.

Uddin et al. (2008) stated that 58.24 per cent of rural youth had medium size of family followed by (31.76 per cent) small and (10 per cent) large respectively.

Singh and Singh (2009) observed that maximum rural youth belonged to large size of family.

Rashid and Gao (2012) found that 59.5 per cent of rural youth had medium size of family followed by (23.3 per cent) small and (17.2 per cent) large size of family.

5. Education:

Hiremath (2000) in his study reported that, more than 27 per cent of the youth had primary school education, 16.67 per cent had high secondary education and 6.67 per cent had their degree.

Prasad (2002) majority of (70.00 per cent) of the youths studied up to higher secondary education, 15.33 per cent middle education, 9.67 per cent primary education while 4.43 per cent of the respondents were illiterates and only one person (0.67 per cent) completed post graduation.

Bhanu et al. (2007) stated that 32.50 per cent of the rural youth had up to primary school education followed by 25.00 per cent of them had up to high school education and 24.17 per cent educated up to graduate.

Aphunu and Akpobasa (2010) found that 43.5 per cent of rural youth had higher secondary education.

Rashid and Gao (2012) stated that majority of respondents (57.7 per cent) had middle education followed by (24.3 per cent) had higher secondary education and above.

6. Marital status:

Mourya et al. (2009) found that most (64.17 per cent) of the rural youth were married.

Aphunu and Akpobasa (2010) found that majority (52.2 per cent) of the respondents were unmarried and were mainly farmers.

Angaitkar et al. (2013) found that (64 per cent) maximum respondents were unmarried.

7. Farming experience:

Uddin et al. (2008) stated that maximum rural youth (61.53 per cent) had medium farming experience.

Nashi and Jahagirdar (2011) found that More than 70 per cent of the respondents had medium experience in farming.

Angaitkar et al. (2013) observed that maximum respondents had medium farming experience.

8. Involvement in decision making:

Nashi and Jahagirdar (2011) found that more number of the rural youth was involved in decision making with respect to coverage of crops (64.17 per cent). Among rural male youths, majority (93.33 per cent) of them was involved in taking decision about coverage of crops and 86.67 per cent were involved in purchase of agricultural inputs. Among the total rural youths 35 per cent of the rural female youth were involved in decision taking about coverage of crops, followed by 13.33 per cent were involved in taking loan for farm activities.

Angaitkar et al. (2013) observed that maximum respondents had medium involvement in decision making with respect to farm input and irrigation facility.

9. Social participation:

Anamica and Ravichandran (2012) observed that majority of rural youth had medium social participation with respect to participation in gram panchayat and meeting in gram sabha.

Rashid and Gao (2012) found that maximum rural youth (44 per cent) had low social participation followed by (27.5 per cent) medium and (25.9 per cent) high social participation.

10. Size of land holding:

Hiremath (2000) revealed that one fourth of the respondent (26 per cent) and 19.16 per cent of respondents had small and medium land holdings respectively.

Sajjan et al. (2006) drew that nearly half of the respondents were small farmers (45.00%). The reason might be fragmentation of ancestral land from generation to generation which might have resulted to smaller size of land holdings.

Grewal et al. (2007) found that maximum respondents (54 per cent) had small size of land holdings.

11. Annual income:

Sajjan et al. (2006) drew that the results regarding to annual income of the respondents families, more than half of the respondents (54.99 per cent and 58.33 per cent) belonged to medium category of annual income nearly 17.00 per cent of the respondents belonged to higher category of annual income whereas 23.32 of the respondents in irrigated tract belonged to category of low annual income.

Grewal et al. (2007) found that maximum (45 per cent) rural youth had high annual income.

II. Socio-communicational attributes of rural youth:

12. Cosmopoliteness:

Anamica and Ravichandran (2012) observed that majority of rural youth had medium cosmopoliteness (54 per cent).

Kimaro et al. (2015) found 33 (50 per cent) respondents had medium cosmopoliteness regarding participation in agriculture, 22 (33.3 per cent) had high and 11 (16.7 per cent) low cosmopoliteness respectively.

13. Contact with extension agent:

Mourya et al. (2009) found that most (64.17 per cent) of the rural youth had less contact with extension agent.

Arun (2010) observed that most (58.22 per cent) of the rural youth had medium contact with extension agent.

14. Source of information:

Perumathiyalagan et al. (1998) found that 69.33 per cent of the respondents had high level of source of information.

Mourya et al. (2009) stated that majority (82.50 per cent) of rural youth had low level of source of information.

III. Socio-psychological attributes of rural youth:

15. Economic motivation:

Mourya et al. (2009) stated that majority (59 per cent) of the rural youth had medium level of economic motivation.

Angaitkar et al. (2013) observed that maximum respondents (59.16 per cent) had medium level of economic motivation.

16. Scientific motivation:

Arun (2010) stated that maximum respondents (45.20 per cent) had medium level of scientific motivation towards participation in agriculture.

Patel et al. (2014) found that majority (55.36 per cent) of rural youth had medium level of scientific motivation.

17. Risk preference:

Angaitkar et al. (2013) observed that (53.33 per cent) majority of rural youth had medium level risk preference to choose agriculture as profession.

Patel et al. (2014) found that majority (53.36 per cent) of rural youth had medium level risk preference.

IV. Attitude regarding participation in agriculture:

Manohari (2001) in her study conducted in Hyderabad reported that more than half of the primitive tribal groups (58.75 per cent) possessed favourable attitude towards agricultural technology followed by highly favourable attitude (26.25 per cent), only 10.00 per cent of them belong to neutral attitude category and meager per cent of them (5.00 per cent) had less favourable attitude.

Bhanu et al. (2007) concluded that a majority of the rural youth (72.50 per cent) had favourable attitude regarding agriculture and rural development activities.

Mourya et al. (2009) found that most (51.67 per cent) of rural youth had favourable attitude towards agriculture.

Aphunu and Akpobasa (2010) stated that 69.9 per cent of the respondents had less favourable attitude, followed by 30.4 per cent had favourable attitude regarding agricultural participation.

Patel et al. (2014) found that great majority (83.58 per cent) of rural youth had favourable attitude towards dairy farming and agriculture.

Kimaro et al. (2015) observed that (74.5 percent) rural youth who participated in agricultural activities had favourable attitude towards agriculture.

V. Association between independent with dependent variable:

Mourya et al. (2009) found that age, caste, type of family, size of family, marital status, farming experience, social participation, annual income, source of information, contact with extension agent, risk orientation and economic motivation has significant associated with constraints analysis regarding participation of rural youth in agricultural activities while size of land holding found to be not significant.

Aphunu and Akpobasa (2010) reported that age and size of family had not significant association with the assessment of rural youth attitude towards agricultural participation, while marital status, education, social participation, source of information, economic motivation and risk preference found to be significant.

Angaitkar et al. (2013) stated that there was significant association between socio-economic and psychological characteristics (age, education, farming experience, annual income, involvement in decision making, cosmopoliteness, economic motivation, scientific motivation and risk preference) of rural youth with their attitude level while choosing agriculture as a profession.

Kimaro et al. (2015) concluded that the factors influencing rural youth participation in agricultural activities such as age, sex, marital status, education, type and size of family, involvement in decision making, size of land holding, annual income, cosmopoliteness and scientific orientation are significantly associated with attitude of rural youth participation in agricultural activities.

VI. Constraints and suggestions for enhancing the participation of rural youth in agriculture:

Aphunu and Akpobasa (2010) drew that lack of incentives from government, insufficient land, lack of infrastructure in the rural areas and inadequate training and extension services were perceived serious constraints hindering youth's involvement in agricultural production activities. So, there was need for development planning to put adequate structures in place for youths to appreciate their immediate environment.

Arun (2010) found that the major constraints faced by the rural youth were lack of rural youth organizations, lack of interest of ADO/VDO and high cost of production. Hence, it was suggested that the government should ensure regularity of the extension staff at the village. The private players and N.G.O. should· come forward· effectively and' efficiently to shoulder the responsibility of extension activities along with government in this view era of privatization/liberalization.

Nashi and Jahagirdar (2011) observed that Majority (65 per cent) of the rural youth expressed lack of awareness as their major problem (latest technology, varieties etc.). Hence, it was suggested that concerned development departments can motivate the rural youth to organize self help groups and to initiate various income generating activities to improve their income level of the families and standard of living and there was a need for organizing educational activities via, campaigns, youth centered programmers by the concerned development departments.

Anamica and Ravichandran (2013) revealed that the constraints faced by rural youth were lack of capacity building activities related to farm management leads to less participation in agricultural activities. Hence, it was suggested that rural youth should be strengthened in their capacity building activities by contacting with extension agents.

Kimaro et al. (2015) found that the constraints rural youth face for their participation in agricultural activities was the lack of organization and insufficient fund and inputs. Therefore, it was suggested that government should reform and formulate the development policies which are in favour for rural youth participation in agricultural activities. The government should ensure the availability of enough inputs and capital for rural youth. Rural youth should organize themselves in groups in order to share knowledge and experience for the improvement of agriculture production. This will also help them to secure loans from micro and macro credit institutions.

****

MATERIAL AND METHODS

This chapter deals with the methods and procedures which are used in the study. The different steps were undertaken are listed below and the details under each step are explained in the succeeding part of the chapter as:-

I. Sampling techniques used
   a) Location of the study
   b) Selection of block
   c) Selection of villages
   d) Selection of respondents

II. Selection of variables, their definitions, measurements, scoring procedure and categorization

III. Development of instrument, pre testing of schedule and methods of data collection

IV. Processing and statistical analysis of data

V. Validity and Reliability of instruments

VI. Derivation of hypotheses

I. Sampling techniques used

a) Location of the study:

The study was carried out in Jabalpur district of Madhya Pradesh. The district is located in the centre of the state. It lies between north latitude 22^0 49' and 24^0 08' and east longitude 79^0 21' and 80^0 53' at the altitude of 394 metre above the mean sea level. The Tropic of Cancer passes through the south of district. It is surrounded in the west by Damoh and Narshinghpur districts, in the north by Katni and Panna districts, in the east by Shahdol and Mandla districts and in the south by Seoni and Balaghat districts.

The population of Jabalpur district is 24, 60,714 out of which 11, 82,266 are males and 10, 21,937 are females. The average density of the population is 473 per sq. km. The literacy percentage of male is 89.1, female is 75.3 and total average is 82.5. The total geographical area of the district is

5,19,757 ha and total cultivated area of the district is 3,67,279 ha having 28 per cent of total irrigated area is 1,02,838 ha and 64 per cent of rain fed area is 2,35,058 ha. There are 7 blocks, 542 gram panchayats and 1444 villages in Jabalpur district.

(Source- http://www.jabalpur.nic.in/statistics.html)

Table 3.1: General features of agriculture of Jabalpur district (M.P.)

S.No.	Particulars	
1	Agro ecological sub region (ICAR)	Central Highlands, Hot sub humid (dry) ecological sub region
2	Agro climatic Zone (Planning Commission)	Central Plateau And Hills Region
3	Agro climatic Zone (NARP)	Kymore Plateau and Satpura Hill Zone
4	Total geographical area (ha)	5,19,757
5	Forest area (ha)	77,654
6	Fallow land (ha)	57,920
7	Total cultivated area (ha)	3,67,279
8	Other degraded land (ha)	16,904
9	Total Rain fed area (ha)	2,35,059
10	Total Irrigated area (ha)	1,02,838
11	Double cropped area (ha)	18,511
12	Soil type	Heavy soil (45%) area covering blocks Jabalpur, Patan, Shahpura, Panagar
		Medium and black soil (25%) area covering blocks Majholi, Sihora, Shahpura
		Light soil (30%) area covering blocks Kundum, Jabalpur, Sihora
13	Crop intensity (%)	136.45
14	Nutrient consumption (N:P:K)	39:21:2
15	Average annual rainfall (mm)	1358
16	Maximum temperature	40 - 43^0 C (May)
17	Minimum temperature	8 - 10^0 C (January)
18	Major Crops grown	Wheat, Gram, Paddy, Arhar, Maize, Mustard andSoybean

(Source- Department of Agriculture, Government of M.P., Bhopal and PRA study by KVK, Jabalpur, 2011)

b) Selection of block:

The Jabalpur district comprises of 7 blocks namely Jabalpur, Panagar, Kundam, Patan, Shahpura, Majholi and Sihora. Out of which Patan block was selected on the basis of most progressive block of the district as it has 89792 hectares of land under farming which is more than other blocks.

Table 3.2: General features of agriculture of Patan block of Jabalpur district (M.P)

S.No.	Particulars	
1	Total geographical area (ha)	60734
2	Fallow land(ha)	1291
3	Total cultivated area (ha)	72745
4	Other degraded land(ha)	786
5	Total irrigated land (ha)	35984
6	Total rainfed land (ha)	36761
7	Double cropped area (ha)	23095
8	No. of tehsil	1
9	No. of gram panchayat	78

c) Selection of villages:

Patan block comprises of 227 villages. A list of rural youth was prepared with the help of RAEOs. Out of which six villages will selected randomly i.e. Benikheda, Kheri, Khamod, Udana, Murei and Ganyari on the basis of participation in agriculture.

d) Selection of respondents:

A list of rural youth of each selected villages was prepared with the help of RAEO's. Out of which 120 rural youth were selected by using proportionate random sampling method.

Table 3.3: Name of selected villages and number of respondents (rural youth) of Patan block of Jabalpur district

S. No.	Name of Village	No. of rural youth participated in agriculture	No. of respondents selected for study
1	Benikheda	117	30
2	Kheri	74	15
3	Khamod	69	15
4	Udana	88	20
5	Murei	120	20
6	Ganyari	114	20
	Total	582	120

II. Selection of variables, definitions, and their measurements, scoring procedure and categorization:

Variables and their measurements

	Independent variables		Measurements
A.	**SOCIO - PERSONAL AND ECONOMICAL VARIABLES**		
1	Age	**X1**	Actual chronological age
2	Caste	**X2**	Self scoring
3	Type and family	**X3**	Self scoring
4	Size of family	**X4**	Self scoring
5	Education	**X5**	Self scoring
6	Marital status	**X6**	Self scoring
7	Farming experience	**X7**	In years
8	Involvement in decision making	**X8**	Self scoring
9	Social participation	**X9**	Self scoring
10	Size of land holding	**X10**	In hectare
11	Annual income	**X11**	In rupees
B.	**SOCIO - COMMUNICATIONAL VARIABLES**		
12	Cosmopoliteness	**X12**	Self scoring
13	Contact with extension agent	**X13**	Self scoring

14	Source of information	**X14**	Self scoring
C.	**SOCIO - PSYCHOLOGICAL VARIABLES**		
15	Economic motivation	**X15**	Self scoring
16	Scientific motivation	**X16**	Self scoring
17	Risk preference	**X17**	Self scoring
	Dependent variable		
	Attitude regarding participation of rural youth in agricultural activities	**Y1**	Index developed

A. Operational definition of independent variables:

1. Age:

It refers to the actual age of the respondents in completed, i.e. chronological age of the respondents. The actual age was recorded as told by the respondents at the time of interview. Respondents already have age limit 18-35 years. Here in this study age was categorized into three groups: young, middle and adult.

S. No.	Categories	Scores
1	Young	18-23 years
2	Middle	24-29 years
3	adult	30-35 years

2. Caste:

Caste has been theoretically defined as hereditary of indigenous groups having a traditional association with an occupation and particular position in the hierarchy of the caste. In a broad way a system in which an individual rank and accompanying rights and obligations ascribed on the basis of birth into a particular group. In this study following four categories were used i.e. scheduled tribe (ST), scheduled caste (SC), other backward classes (OBC) and general.

S. No.	Categories	Score
1	Scheduled tribe (ST)	1
2	Scheduled caste (SC)	2
3	Other backward classes (OBC)	3
4	General	4

3. Type of family:

The type of family included whether it is a joint or a nuclear family.

Nuclear family: This includes the families limited to husband, wife and their children.

Joint family: This includes the families who were having a great number of members living together and where individual earning and common mode of cooking were pooled together to run the family by family head.

S. No.	Categories	Scores
1	Nuclear family	1
2	Joint family	2

4. Size of family:

It has been defined as number of members in the family as male, female and children. Thus total number decided by the size of family. In the present study on the basis of specific number of members in family of rural youth living together in the home was considered. On the basis of number of his family the following categories were made.

S. No.	Categories	Scores
1	Small (up to 4 members)	1
2	Medium (5-8 members)	2
3	Large (more than 8 members)	3

5. Education:

It refers to the ability or inability of an individual to read and write and his formal education attained and categories formulated as follows:

S.No.	Categories	Score
1	Illiterate	1
2	Can read only	2
3	Can read & write	3
4	Up to Primary school	4
5	Up to Middle school	5
6	Up to High school	6
7	Higher secondary and above	7

6. Marital status:

On the basis of marital status respondents were grouped into two categories unmarried and married.

S. No.	Categories	Scores
1	Unmarried	1
2	Married	2

7. Farming experience:

Experience plays quite a vital role in one's performance. Experience explains for how long an individual has been growing crop in terms of years. On the basis of experience, all the respondents were grouped into three categories.

S. No.	Categories	Scores
1	Small (up to 4 members)	1
2	Medium (5-8 members)	2
3	Large (more than 8 members)	3

8. Involvement in decision making:

Decision making is a process which involves the mental process of management in which it is one of the central activities of management and is a huge part of any process of implementation. The variable was measured on three-point continuum as never, sometimes and always was assigned 0, 1 and 2 scores consisting nine statements respectively. Involvement of rural youth in decision making process is a major factor in this study and categorized into three categories.

S. No.	Categories	Score range
1	Low	Up to 6
2	Medium	7 to 12
3	High	13 to 18

9. Social participation:

It refers to the degree of involvement and frequency of participation of an individual in different activities in the social organizations. The variable was measured on three-point continuum as never, sometimes and always was assigned 0, 1 and 2scores respectively and for the membership with the organization and being in a post were assigned 1 and 2 respectively. The categorization was as follows:

S. No.	Categories	Score range
1	Low	Up to 13
2	Medium	14 to 27
3	High	28 to 40

10. Size of land holding:

The size of land holding refers to an area of land possessed by an individual or household for the purpose of cultivation and represented in hectare. Based on land holding on the land holdings the respondents were categorized into four groups.

S. No.	Categories	Score
1	Marginal (Up to 1 ha)	1
2	Small (1.001 to 2 ha)	2
3	Medium (2.001 to 4 ha)	3
4	Large (Above 4 ha)	4

11. Annual income:

It refers to the total income of the respondents obtained from farming and allied occupation including other source of income such as service, caste occupation, business etc. The respondents were classified into three categories on the basis of their income.

S. No.	Categories	Score
1	Low (Rs.28,000- Rs.2,85,333)	1
2	Medium (RS.2,85,334-Rs.5,42,667)	2
3	High (Rs.5,42,668-Rs.8,00,000)	3

12. Cosmopoliteness:

It refers to the degree to which an individual is oriented outside his social system or his village that might make him more accessible to innovation. The scale consists of seven items and responses recorded on three-point continuum as never, sometimes and always was assigned 0, 1 and 2scores respectively The respondents were classified into three categories on the basis of their cosmopoliteness.

S. No.	Categories	Score range
1	Low	Up to 4
2	Medium	5 to 9
3	High	10 to 14

13. Contact with extension agent:

Contact with extension agent refers to the number of times a person had contacted to RAEO, ADO, SADO, scientists, SMS, etc. It is the degree of involvement by the farmers with extension personals of different extension agencies. Responses were recorded on the four point continuum as once in a week, fortnightly, once in a month and never were scored 3, 2, 1 and 0 containing ten contact agents respectively. The respondents were classified into three categories as per obtained score.

S. No.	Categories	Score range
1	Low	Up to 10
2	Medium	11 to 20
3	High	21 to 30

14. Source of information:

An information source is a source of information for somebody, i.e. anything that might inform a person about something or provide knowledge about it. Different types of questions require different sources of information. Information sources may be observations, people, speeches, documents, pictures, organizations, websites, etc. They may be primary sources, secondary sources and tertiary sources and so on. Responses were recorded on the four point continuum as every day, once in a week, sometimes and never were scored 3, 2, 1 and 0 containing 10 items respectively. The respondents were classified into three categories as per obtained score.

S. No.	Categories	Score range
1	Low	Up to 10
2	Medium	11 to 20
3	High	21 to 30

15. Economic motivation:

Economic motivation is the degree to which an individual intends to earn the maximum economic profit through his occupation. It has been conceptualized as one's orientation towards profit maximization for his development. The response were recorded on three point continuum as strongly agreed, partially agreed and disagree and were scored 3, 2 and 1 containing ten statements respectively. The reverse of the scoring was used for negative statements. On the basis of maximum 30 and minimum 10 obtained score respondents were grouped into three categories.

S. No.	Categories	Score range
1	Low	10 to 16
2	Medium	17 to 23
3	High	24 to 30

16. Scientific motivation:

It was the degree to which a farmer was motivated to the use of scientific methods in decision making on farming and also indicates the attitude of a respondent towards science. The response were recorded on three point continuum as strongly agreed, partially agreed and disagree and were scored 3, 2 and 1 containing eight statements respectively, reverse of the scoring was used for negative statements. The total scores explain the degree of scientific motivation of an individual. On the basis minimum and maximum possible scores, the categories were formulated such as:

S. No.	Categories	Score range
1	Low	8 to 12
2	Medium	13 to 18
3	High	19 to 24

17. Risk preference:

It is operationally defined as “the degree to which a rural youth oriented towards encountering for using any technologies in his farm.” For the study responses collected on three point continuum as strongly agreed, partially agreed and disagree and were scored 3, 2 and 1 containing eleven statements respectively, reverse of the scoring was used for negative statements. On the basis of minimum and maximum obtained score 11 and 33 the rural youth were grouped into following categories.

S. No.	Categories	Score range
1	Low	11 to 17
2	Medium	18 to 25
3	High	26 to 33

B. Operational definition of dependent variable:

Attitude regarding participation of rural youth in agricultural activities:

Attitude can be defined as “a predisposition or a tendency to respond positively or negatively towards a certain idea, object, person or situation. Attitude influences an individual’s choice of action and responses to stimuli. In the present study attitude regarding participation of rural youth in agricultural activities is operationalized as the degree of postiveness or negativeness of rural youth regarding agriculture. For the study, responses were collected on five point continuum as strongly agree, agree, undecided, disagree and strongly disagree and were given 5, 4, 3, 2 and 1 for positive statement and reverse for negative contains sixteen statement respectively. On the basis of minimum and maximum score 16 and 80 the rural youth were grouped into the following categories.

S. No.	Categories	Score range
1	Less favourable	16 to 37
2	Favourable	38 to 59
3	High favourable	60 to 80

III. Development of instrument for data collection, Pre testing of schedule and methods of data collection

a) Development of instrument for data collection:

An interview schedule was designed on the basis of objectives and variables under study. To facilitate the respondents the interview schedule was formed in Hindi language. Every question was thoroughly examined and discussed by author and advisory committee before pre testing of the interview schedule. In order to find out the mistakes and short falls and achieve clarity and practicability of the schedule the nature of some questions was modified and the schedule was finalized.

The primary data were collected through a pre tested interview schedule, the respondents were personally contacted by the investigator and personal interview of the respondents was conducted into following part.

a. The first part of the schedule comprised of the questions related to general type of information of the respondents.
b. The second part of the schedule included the questions related to specific information about their attitude regarding participation in agricultural activities.
c. The third part of schedule included the constraints and suggestion to enhance the participation of rural youth in agriculture.

b) Pre testing of schedule:

The pre testing of the schedule was done in non sampled village of Patan block. Necessary corrections and modifications were done especially to ensure that the instructions and questions were clear and unambiguous in the schedule as per objectives and purpose of the study and to obtain correct response. And finally the task of data collection was commenced. Before recording the responses from the respondents they were explained about the purpose of their interview and the objectives of the study.

c) Methods of data collection:

For collection of data the investigator personally interviewed the respondents of their home and field depending on their availability. After pilot

study the structured interview schedule was administered and data obtained from the respondents separately. This necessitated several visits of villages.

IV. Processing and statistical analysis of data:

Data were collected qualitative as well as quantitative. Qualitative data were converted in quantitative data. The quantitative data were tabulated on the basis of logical categorization method as described earlier. The following statistical techniques were used in the study.

a) Frequency
b) Percentage
c) Chi square test
d) Mean
e) Rank order

a) Frequency:

In statistics the frequency (or absolute frequency) of an event is the number of times the event occurred in an experiment or study.

b) Percentage:

The term ‘percentage’ means a fraction whose denomination is 100 and the numeration of the fraction is called percentage. For calculating percentage, frequency was multiplied by 100 and divided by total respondents

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

Where,

P = Percentage

X = Frequency of respondents

N = Total number of respondents

c) Chi square test:

Test to determine whether two attributes are independent by comparison of observed frequencies related to expected frequencies.

Formula:

$$\chi^2 \text{ cal.} = \sum_{i=1}^{m} \sum_{j=1}^{n} \frac{(O_{ij} - E_{ij})^2}{E_{ji}}$$

With (r-1) (c-1) degree of freedom

When any of the cell frequency is small (<5), then Yates correlation of contingency was applied:-

$$\boldsymbol{\chi^2 \text{ cal.} = \sum_{i=1}^{m} \sum_{j=1}^{n} \frac{(O_{ij} - E_{ij}) - ½)^2}{E_{ji}}}$$

With (m-1) (n-1) degree of freedom.

Where,

E_{ij} = Expected frequency corresponding to (i, j) cell

O_{ij} = Observed frequency corresponding to (i, j) cell.

r = number of rows

$\sum$ = summation over all differences

c = Number of columns

χ^2 = Chi-square

d) Mean:

Mean was obtained by dividing the sum of the scores by the total number of respondents, according to the following formula –

$$\overline{X} = \frac{\sum_{i=1}^{n} Xi}{n} [i = 1,2,3,.....n]$$

Where,

X = Mean

Σxi = Sum of all the pairs in a distribution

n = Total number of items involved.

e) Rank order:

The term 'Rank order' is used to determine each respondents order of preference for a list of items.

V. Validity and reliability of instruments

Validity refers to whether the data collection instrument measures what it is supposed to measure. The validity of interview schedule for this study was maximized by taking the following steps:

1. The interview schedule was thoroughly discussed with the members of the advisory committee and scientists. Their suggestions were incorporated.
2. Pre testing of interview schedule provided an additional check for improving the instrument.
3. The relevance of each question in terms of objectives of the study, their logical orders and working of each item was checked carefully.

Reliability of an interview schedule refers to its consistency or stability in obtaining responses from the respondents. It was confirmed that the interview schedule was reliable before serving to the respondents for collection of data.

VI. Derivation of hypotheses:

Relevant hypotheses were formulated on the basis of the study and were tested in the null form, as follow:

1. There is no association between age of the rural youth and their attitude regarding participation in agricultural activities.
2. There is no association between caste of the rural youth and their attitude regarding participation in agricultural activities.
3. There is no association between type of family of the rural youth and their attitude regarding participation in agricultural activities.
4. There is no association between size of family of the rural youth and their attitude regarding participation in agricultural activities.
5. There is no association between education of the rural youth and their attitude regarding participation in agricultural activities.
6. There is no association between marital status of the rural youth and their attitude regarding participation in agricultural activities.
7. There is no association between farming experience of the rural youth and their attitude regarding participation in agricultural activities.
8. There is no association between involvement in decision making of the rural youth and their attitude regarding participation in agricultural activities.
9. There is no association between social participation of the rural youth and their attitude regarding participation in agricultural activities.
10. There is no association between size of land holding of the rural youth and their attitude regarding participation in agricultural activities.
11. There is no association between annual income of the rural youth and their attitude regarding participation in agricultural activities.
12. There is no association between cosmopoliteness of the rural youth and their attitude regarding participation in agricultural activities.
13. There is no association between contact with extension agent of the rural youth and their attitude regarding participation in agricultural activities.

14. There is no association between source of information of the rural youth and their attitude regarding participation in agricultural activities.
15. There is no association between economic motivation of the rural youth and their attitude regarding participation in agricultural activities.
16. There is no association between scientific orientation of the rural youth and their attitude regarding participation in agricultural activities.
17. There is no association between risk preference of the rural youth and their attitude regarding participation in agricultural activities.

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DISCUSSION

The main findings of the investigation have been discussed and are presented under the following sub-heads:

I. Socio-personal and economical attributes of rural youth.
II. Socio-communicational attributes of rural youth.
III. Socio-psychological attributes of rural youth.
IV. Attitude regarding participation in agricultural activities.
V. Association between independent with dependent variable.
VI. Constraints and suggestions for enhancing the participation of rural youth in agriculture.

I. Socio-personal and economical attributes of rural youth:

1. Age:

The study revealed that maximum number of rural youth belonged to middle age group of 24-29 years. This might be due to the educational aspiration of rural youth as most of young age group (18-23 years) persuading their higher secondary and graduation. The findings of Mishra et al. (2007), Nashi and Jahagirdar (2011) and Rashid and Gao (2012) confirm the present findings.

2. Caste:

Majority of rural youth belonged to other backward classes (OBC). The work of Mourya et al. (2009) and Angaitkar et al. (2013) confirm the present findings.

3. Type of family:

Maximum of rural youth had joint type of family. As most of the rural youth were unmarried thus, they don’t have family of their own. The work of Singh and Singh (2009) confirms the present findings.

4. Size of family:

The study shows that maximum numbers of rural youth had medium size of family which confirms the work of Kumar and Singh (2009), Uddin et al. (2008) and Rashid and Gao (2012).

5. Education:

Maximum of rural youth completed their high school. Today's world scenario is to prefer as much education one should perceive. It was found that rural youth of the particular area had interest to pursue higher education and for that reason migration of youth is threat in that area for pursuing higher studies. This confirms the study of Prasad (2002).

6. Marital status:

Majority of rural youth were unmarried. This might be due to too young to marry and have family. The study of Aphunu and Akpobasa (2010) and Angaitkar et al. (2013) confirm the present study.

7. Farming experience:

Maximum of rural youth had medium farming experience. As much of the respondents were belonged to middle age group and mostly they started farming as an occupation after age of 23-24 years old. The findings of Mourya et al. (2009), Nashi and Jahagirdar (2011) and Angaitkar et al. (2013) confirm the present study.

8. Involvement in decision making:

Maximum of rural youth had medium level of involvement in decision making. The findings of Angaitkar et al. (2013) confirm the present study.

9. Social Participation:

The study shows that maximum numbers of rural youth had medium social participation which confirms the work of Anamica and Ravichandran (2012).

10. Size of land holding:

Maximum of rural youth had small size of land holding. The work of Sajjan et al. (2006) and Grewal et al. (2007) confirms the present study.

11. Annual income:

The study shows that maximum numbers of rural youth had high annual income due to adoption of good packages and practices and as a most progressive block of the study area, this boost the performance in the yield having timely performing the practices in the crop production. Another factor is that most of the rural youth had secondary income besides agriculture such as caste occupation, business etc. This confirms the work of Grewal et al. (2007).

12. Cosmopoliteness:

Maximum of rural youth had medium cosmopoliteness. The work of Anamica and Ravichandran (2012) Kimaro et al. (2015) confirms the present study.

13. Contact with extension agents:

The study shows that maximum numbers of rural youth had medium contact with extension agent which confirms the work of Arun (2010).

14. Source of information:

Maximum of rural youth had high source of information. Due to high facility of internet in every corner of the country, rural youth of that particular area had keen interest on smart phones and most of the families were knowledge about different sources of information such as KCC and KMS. This study confirms the work of Perumathiyalagan et al. (1998)

III. Socio-psychological attributes of rural youth:

15. Economic motivation:

The study shows that maximum numbers of rural youth had medium level economic motivation which confirms the work of Mourya et al. (2009) and Angaitkar et al. (2013).

16. Scientific orientation:

Maximum number of rural youth was having medium level of scientific motivation. This confirms the study of Arun (2010) and Patel et al. (2014).

17. Risk preference:

Maximum number of rural youth was having medium level of risk preference. This confirms the study of Angaitkar et al. (2013) and Patel et al. (2014).

IV. Attitude regarding participation in agricultural activities:

The study revealed that maximum of rural youth had favourable attitude regarding participation in agricultural activities. Though youth have desirable qualities that can promote agriculture, most of them have strong apathy toward it. This has resulted in mass unemployment and lack of sustainable livelihood among youth which is a good fortune for our country and as an extension worker we should encourage them to keep the momentum. This study confirms the work of Manohari (2001), Bhanu et al. (2007), Mourya et al. (2009), Patel et al. (2014), Kimaro et al. (2015).

V. Association between independent with dependent variable:

The study revealed that age, caste, type of family, size of family, education, marital status, farming experience, involvement in decision making,

social participation, annual income, cosmopoliteness, contact with extension agent, source of information, economic motivation, scientific motivation and risk preference had significant association with attitude of rural youth regarding participation in agriculture only size of land holding found to be non significant. This study confirms the work of Mourya et al. (2009).

VI. Constraints and suggestions for enhancing the participation of rural youth in agriculture:

This study revealed that various constraints were found among the rural youth. So, categorizations were made i.e. in social constraints, participation in other social activities and lack of inclination towards traditional job considered to be the major social constraints. Similarly, in psychological and technical constraints, lack of patience and lack of appropriate technology and its use considered to be the major one. Further in economical, extension related and other constraints, price fluctuation, untimely reaching of message and migration of rural youth considered as major constraints.

As per suggestions are concerned categorization were made i.e. in technical and economical suggestions, special concerns should be taken on climate change and prices of crops should be change according to the farmers' convenience considered to be the most frequent suggestion given by the respondents. Similarly in case of extension related and psychological suggestions, Scientists should visit the farm and solve problems with proper demonstrations and be motivated for innovation in agriculture considered to be the major suggestions to be concerned. Finally in other and social suggestions, timely diffusion of adoption process for enhancing agriculture and seniors should guide rural youth emerged as the major suggestions replied by the respondents.

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SUMMARY, CONCLUSIONS AND SUGGESTIONS FOR FURTHER WORK

6.1 Summary:

According to population census 2011, India had total youth population of 325.2 millions, which is 35% of the total population. Out of this, about 70% were rural youth and remaining 30% were urban youth. As majority of the youth comes from rural areas, they are considered as the nation builders of tomorrow. This important section of the rural population can respond to the needs of country only if they are offered fruitful opportunities for growing up as useful citizens.

With a growing world population and a decreasing agricultural productivity in combination with a rural exodus, India is losing more than 2000 farmers every single day and that since 1991, the overall number of farmers has dropped by 15 million (Sainath, 2013). This has several implications for the future of Indian agriculture and India's food security. Rural youth can play an important role in ensuring food security if they are encouraged to involve in farming and the challenges they face are addressed. Over the past few years, rural youth have been shying away from agriculture and globally there is an increasing interest in finding ways of engaging youth in agriculture (IFAD, 2012; Paisley, 2013). Currently, there is a challenge of retaining youngsters in agriculture due to various socio-economic factors, including profitability in agricultural pursuits. It has become imminent to reorient agricultural practices to make them intellectually satisfying and economically rewarding for the youth. Nearly 70% of India's population is below the age of 35 years making India the youngest nation in the world and interestingly 70% of them live in rural areas. In 2020, the average Indian will be only 29-years-old, whereas in China and the United States of America the average age is estimated to be 37 years. We may utilize this demographic dividend for taking Indian agriculture to new heights by channelizing the creative energies of the youth through development of skills, knowledge and attitudes.

Keeping this frame of working in view this “A study on Attitude of Rural youth regarding participation in agricultural activities of Patan block of Jabalpur district (M.P)” was undertaken with following specific objectives:-

Objectives of the study:

1. To study the socio-personal, economical, communicational and psychological attributes of rural youth.
2. To find out the attitude of rural youth regarding participation in agricultural activities.
3. To find out the association between independent with the dependent variable.
4. To find out constraints and suggestions for enhancing the participation of rural youth in agriculture.

In order to achieve these objectives the investigation was conducted in Jabalpur district. The Jabalpur district comprises of 7 blocks namely Jabalpur, Panagar, Kundam, Patan, Shahpura, Majholi and Sihora. Out of which Patan block was selected on the basis of most progressive block of the district as it has 89792 hectares of land under farming which is more than other blocks. Out of which 120 rural youth were selected by using proportionate random sampling method from six villages of Patan block.

For the study purpose 17 independent variables namely age, caste, type of family, size of family, education, marital status, farming experience, involvement in decision making, social participation, size of land holding, annual income, cosmopoliteness, contact with extension agents, source of information, economic motivation, scientific motivation and risk preference. The data were collected with the help of interview schedule.

Statistical analysis of data:

The statistical method viz. calculation was made on percentage basis, mean, rank order and chi-square test was applied to determine the attitude of rural youth regarding participation in agriculture and association between dependent and independent variables.

6.2 Conclusions

6.2.1 Socio-personal, economical, communicational and psychological attributes of rural youth:

On the basis of empirical results found in the present study that maximum number of rural youth belonged to middle age group of 24-29 years, majority of rural youth belonged to other backward classes (OBC), maximum of rural youth had joint type of family, maximum numbers of rural youth had medium size of family, maximum of rural youth completed their high school, majority of rural youth were unmarried, maximum of rural youth had medium farming experience, maximum of rural youth had medium level of involvement in decision making, maximum numbers of rural youth had medium social participation, maximum of rural youth had small size of land holding, maximum numbers of rural youth had high annual income**,** maximum of rural youth had medium cosmopoliteness, maximum numbers of rural youth had medium contact with extension agent , maximum of rural youth had high source of information, maximum numbers of rural youth had medium, maximum number of rural youth was having medium level of scientific motivation, maximum number of rural youth was having medium level of risk preference.

6.2.2 Attitude of rural youth regarding participation in agricultural activities

The study revealed that maximum of rural youth had favourable attitude regarding participation in agricultural activities. Though youth have desirable qualities that can promote agriculture, most of them have strong apathy toward it.

6.2.3 Association between independent with dependent variable:

The age, caste, type of family, size of family, education, marital status, farming experience, involvement in decision making, social participation, annual income, cosmopoliteness, contact with extension agent, source of information, economic motivation, scientific motivation and risk preference

had significant association with attitude of rural youth regarding participation in agriculture only size of land holding found to be non significant.

6.2.4 Constraints and suggestions for enhancing the participation of rural youth in agriculture:

This study revealed that various constraints were found among the rural youth. So, categorizations were made i.e. in social constraints, participation in other social activities and lack of inclination towards traditional job considered to be the major social constraints. Similarly, in psychological and technical constraints, lack of patience and lack of appropriate technology and its use considered to be the major one. Further in economical, extension related and other constraints, price fluctuation, untimely reaching of message and migration of rural youth considered as major constraints.

As per suggestions are concerned categorization were made i.e. in technical and economical suggestions, special concerns should be taken on climate change and prices of crops should be change according to the farmers' convenience considered to be the most frequent suggestion given by the respondents. Similarly in case of extension related and psychological suggestions, Scientists should visit the farm and solve problems with proper demonstrations and be motivated for innovation in agriculture considered to be the major suggestions to be concerned. Finally in other and social suggestions, timely diffusion of adoption process for enhancing agriculture and seniors should guide rural youth emerged as the major suggestions replied by the respondents.

6.3 Suggestions for further study:

1. The study was confined only to one district of Madhya Pradesh on sample of 120 respondents and the results are applicable to area only. Hence further research in this field may be carried out in other areas so that generalization of results could be possible.
2. It is suggested that technical guidance should be given properly and brief about steps of conducting demonstrations should be explained in advance.

3. Assessment of constraints faced by the rural youth regarding participation in agricultural activities should be analyzed and remedial measures be suggested.
4. A separate study on rural youth towards their perception and innovativeness in agriculture should be conducted.
5. In the study, the dependent and independent variables were limited and therefore, future studies may be taken up based on situational and infrastructural variables.

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RESULTS

This chapter deals with the analysis and interpretation of collected data, which were collected from a sample of 120 rural youth with reference to study on Attitude of Rural youth regarding agricultural participation through pre-tested structured interview schedule. Calculation was made on percentage basis, Mean, Rank order and chi-square test was also applied. In the light of the objectives, the data were collected, processed and analyzed. The major findings emerged out of the present study have been suitably categorized, presented and discussed under following subheads:

1. The socio-personal, economical, communicational, psychological, attributes of rural youth.
2. The attitude of rural youth regarding participation in agricultural activities.
3. Association between independent variables with dependent variables.
4. Constraints and suggestion for enhancing the participation of rural youth in agricultural activities.

1. The socio-personal, economical, communicational, psychological, attributes of rural youth:

The variables selected and studied as independent variables were age, caste, type of family, size of family, education, marital status, farming experience, involvement in decision making, social participation, size of land holding, annual income, cosmopoliteness, contact with extension agents source of information, economic motivation, scientific motivation and risk preference are presented here:

1. Age:

Table 4.1: Distribution of rural youth according to their age

S.No.	Categories	Frequency	Percentage
1	Young (18-23 years)	32	26.67
2	Middle (24-29 years)	63	52.50
3	Adult (30-35 years)	25	20.83
Total		120	100.00

The data of the Table 4.1 revealed that out of the 120 rural youth, 26.67 per cent young rural youth, 52.50 per cent belong to middle rural youth and 20.83 per cent belong to adult rural youth age group.

Thus, it may be concluded that the maximum respondents (52.50%) were of middle rural youth followed by (26.67%) young rural youth and (20.83%) adult rural youth age group.

2. Caste:

Table 4.2: Distribution of rural youth according to their caste

S.No.	Categories	Frequency	Percentage
1	Scheduled tribe	19	15.83
2	Scheduled caste	23	19.17
3	Other backward classes	51	42.50
4	General caste	27	22.50
Total		120	100.00

The data presented in the table 4.2 revealed that out of the 120 rural youth respondents, 15.83 per cent were ST (Scheduled Tribe), 19.17 per cent were SC (Scheduled Caste), 42.50 per cent were OBC (Other Backward Classes) and 22.50 per cent were General.

Thus, it may be concluded that maximum percentage of the rural youth were (42.50%) OBC followed by (22.50%) General, (19.17%) SC and (15.83%) ST.

3. Type of family:

Table 4.3: Distribution of rural youth according to their type of family

S.No.	Categories	Frequency	Percentage
1	Nuclear family	56	46.67
2	Joint family	64	53.33
Total		120	100.00

The data presented in the table 4.3 revealed that out of the 120 rural youth respondents, 46.67 per cent were from nuclear family and 53.33 per cent joint family.

Thus, it may be inferred that maximum of rural youth (53.33%) were having joint family.

4. Size of family:

Table 4.4: Distribution of rural youth according to their size of family

S.No.	Categories	Frequency	Percentage
1	Small (up to 4 members)	41	34.17
2	Medium (5-8 members)	53	44.17
3	Large (more than 8 members)	26	21.66
Total		120	100.00

The data presented in the table 4.4 revealed that out of the 120 rural youth respondents, 34.17 per cent had small size family structure with 44.17 per cent had medium size family structure and 21.66 per cent had large size family structure.

Thus, it may be concluded that maximum percentage of the rural youth had (44.17%) large family size structure followed by (34.17%) small size family and (21.66%) medium size family structure.

5. Education:

Table 4.5: Distribution of rural youth according to their education

S.No.	Categories	Frequency	Percentage
1	Illiterate	11	9.17
2	Can read only	14	11.67
3	Can read and write	12	10.00
4	Up to primary education	18	15.00
5	Up to middle education	22	18.33
6	Up to high school	25	20.83
7	Higher secondary and above	18	15.00
Total		120	100.00

The data presented in the table 4.5 revealed that out of the 120 rural youth respondents, 9.17 per cent were illiterate, 11.67 per cent can only read, 10.00 per cent can read and write, 15.00 per cent had up to primary education, 18.33 per cent had up to middle education, 20.83 per cent had

obtained their high school education and 15.00 per cent of rural youth were of higher secondary education and its above.

Thus, it may be concluded that maximum percentage of the rural youth (20.83%) obtained their high school education.

6. Marital status:

Table 4.6: Distribution of rural youth according to their marital status

S.No.	Categories	Frequency	percentage
1	Unmarried	70	58.33
2	Married	50	41.67
Total		120	100.00

The data presented in the table 4.6 revealed that out of the 120 rural youth respondents, 58.83 per cent were unmarried and 41.67 per cent were married.

Thus, it may be inferred that maximum of rural youth (58.33%) were unmarried.

7. Farming experience:

Table 4.7: Distribution of rural youth according to their farming experience

S.No.	Categories	Frequency	Percentage
1	Low (Up to 5 years)	37	30.83
2	Medium (6-10 years)	53	44.17
3	High (More than 10 years)	30	25.00
Total		120	100.00

The data presented in the table 4.7 revealed that out of the 120 rural youth respondents, 30.83 per cent had low farming experience with 44.17 per cent had medium farming experience and 25.00 per cent had high farming experience.

Thus, it may be concluded that maximum percentage of the rural youth had (44.17%) medium farming experience followed by (30.83%) low farming experience and (25.00%) high farming experience.

8. Involvement in decision making:

Table 4.8: Distribution of rural youth according to their involvement in decision making

S.No.	Categories	Frequency	Percentage
1	Low (Score up to 6)	30	25.00
2	Medium (Score 7 to 12)	49	40.83
3	High (Score 13 to 18)	41	34.17
Total		120	100.00

The data presented in the table 4.8 revealed that out of the 120 rural youth respondents, 25.00 per cent had low involvement in decision making with 40.83 per cent had medium involvement in decision making and 34.17 per cent had high involvement of decision making.

Thus, it may be concluded that maximum percentage of the rural youth had (40.83%) medium involvement in decision making followed by (34.17%) high and (25.00%) low involvement in decision making.

9. Social participation:

Table 4.9: Distribution of rural youth according to their social participation

S.No.	Categories	Frequency	Percentage
1	Low (Score up to 13)	31	25.83
2	Medium (Score 14 to 27)	47	39.17
3	High (Score 28 to 40)	42	35.00
Total		120	100.00

The data presented in the table 4.9 revealed that out of the 120 rural youth respondents, 25.83 per cent had low social participation with 39.17 per cent had medium social participation and 35.00 per cent had high social participation.

Thus, it may be concluded that maximum percentage of the rural youth had (39.17%) medium social participation followed by (35.00%) high and (25.83%) low involvement in social participation.

10. Size of Land holding:

Table 4.10: Distribution of rural youth according to their size of land holding

S.No.	Categories	Frequency	Percentage
1	Marginal (Up to 1 ha)	24	20.00
2	Small (1.001 to 2 ha)	34	28.33
3	Medium (2.001 to 4.00 ha)	29	24.17
4	Large (Above 4.0 ha)	33	27.50
Total		120	100.00

The data of the Table 4.10 reveals that out of the 120 rural youth, 20.00 per cent had up to 1 hectare of cultivable land, where as 28.33 per cent have 1.001 to 2 hectare of cultivable land followed by 24.17 per cent had 2.001 to 4.00 hectare of cultivable land, and remaining 27.50 per cent had above 4 hectare of land.

Thus, it may be concluded that majority of rural youth (28.33%) had more than 1.001 to 2 hectare of cultivable land, whereas, there were only twenty per cent of growers had up to 1 ha of cultivable land.

11. Annual income:

Table 4.11 Distribution of rural youth according to their annual income

S.No.	Categories	Frequency	Percentage
1	Low (Rs.28000-Rs.285333)	31	25.84
2	Medium(Rs.285334-Rs.542667)	34	28.32
3	High (Rs.542668-Rs.800000)	55	45.84
Total		120	100.00

The data of Table 4.11 shows that out of the 120 rural youth, 25.84 per cent possessed low annual income, followed by 28.32 per cent had medium and 45.83 per cent belong to high annual income.

Thus, it may be concluded that the majority of rural youth (45.84%) had high level of annual income.

12. Cosmopoliteness:

Table 4.12: Distribution of rural youth according to their cosmopoliteness

S.No.	Categories	Frequency	Percentage
1	Low (Score up to 4)	36	30.00
2	Medium (Score 5 to 9)	47	39.17
3	High (Score 10 to 14)	37	30.83
Total		120	100.00

The data of Table 4.12 shows that out of the 120 rural youth, 30.00 per cent possessed low cosmopoliteness, followed by 39.17 per cent belong to medium and 30.83 per cent belong to high cosmopoliteness.

Thus, it may be concluded that the majority of rural youth (39.17%) had medium cosmopoliteness.

13. Contact with extension agents:

Table 4.13: Distribution of rural youth according to their contact with extension agents

S.No.	Categories	Frequency	Percentage
1	Low (Score up to 10)	31	25.83
2	Medium(Score 11 to 20)	61	50.83
3	High (Score 21 to 30)	28	23.33
Total		120	100.00

The data presented in the table 4.13 revealed that out of the 120 rural youth respondents, 25.83 per cent had low contact with extension agents with 50.83 per cent had medium contact with extension agents and 23.33 per cent had high contact with extension agents.

Thus, it may be concluded that maximum percentage of the rural youth had (50.83%) medium contact with extension agents.

14. Source of information:

Table 4.14: Distribution of rural youth according to their source of information

S.No.	Categories	Frequency	Percentage
1	Low (Score up to 10)	35	29.17
2	Medium (Score 11 to 20)	40	33.33
3	High (Score 21 to 30)	45	37.50
Total		120	100.00

The data presented in the table 4.14 revealed that out of the 120 rural youth respondents, 29.17 per cent had low source of information with 33.33 per cent had medium source of information and 37.50 per cent had high source of information.

Thus, it may be concluded that maximum percentage of the rural youth had (37.50%) high source of information.

15. Economic motivation:

Table 4.15: Distribution of rural youth according to their economic motivation

S.No.	Categories	Frequency	Percentage
1	Low (Score 10 to16)	38	31.67
2	Medium(score 17 to 23)	50	41.67
3	High (Score 24 to 30)	32	26.66
Total		120	100.00

The data presented in the table 4.15 revealed that out of the 120 rural youth respondents, 31.67 per cent had low level of economic motivation with 41.67 per cent had medium level of economic motivation and 26.66 per cent had high level of economic motivation.

Thus, it may be concluded that maximum percentage of the rural youth had (41.67%) medium economic motivation.

16. Scientific motivation:

Table 4.16: Distribution of rural youth according to their scientific motivation

S.No.	Categories	Frequency	Percentage
1	Low (Score 8 to 12)	31	25.83
2	Medium(Score 13 to 18)	56	46.67
3	High (Score 19 to 24)	33	27.50
Total		120	100.00

The data presented in the table 4.16 revealed that out of the 120 rural youth respondents, 25.83 per cent had low level of scientific motivation 46.67 per cent had medium level of scientific motivation and 27.50 per cent had high level of scientific motivation.

Thus, it may be concluded that maximum percentage of the rural youth had (46.67%) medium level of scientific motivation.

17. Risk preference:

Table 4.17: Distribution of rural youth according to their risk preference

S.No.	Categories	Frequency	Percentage
1	Low (Score 11 to 17)	29	24.17
2	Medium(score 18 to 25)	60	50.00
3	High (Score 26 to 33)	31	25.83
Total		120	100.00

The data presented in the table 4.16 revealed that out of the 120 rural youth respondents, 24.17 per cent had low level of risk preference 50.00 per cent had medium level of risk preference and 25.83 per cent had high level of risk preference.

Thus, it may be concluded that maximum percentage of the rural youth had (50.00%) medium level of risk preference.

2) Attitude of rural youth regarding participation in agricultural activities:

Table 4.18: Distribution of rural youth according to their attitude regarding participation in agricultural activities

S.No.	Categories	Frequency	Percentage
1	Less favourable(Score 16-37)	35	29.17
2	Favourable (Score 38-59)	46	38.33
3	More favourable (Score 60-80)	39	32.50
Total		120	100.00

Table 4.18 shows the distribution of rural youth according to their attitude regarding participation of agricultural activities. Data reveals that out of 120 rural youth, 29.17 per cent had less favourable attitude 38.33 per cent had favourable and 32.50 had more favourable attitude regarding participation in agricultural activities.

Thus, it may be concluded that majority of rural youth had (38.33%) favourable attitude regarding participation in agricultural activities.

3) Association between dependent and independent variables:

1. Age:

Table 4.19: Association between age of rural youth and their attitude regarding participation in agricultural activities

Age	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Young(18-23 years)	9 (28.12)	14 (43.76)	9 (28.12)	32 (100.00)
Middle(24-29 years)	13 (20.64)	29 (46.03)	21 (33.33)	63 (100.00)
Adult (30-35 years)	13 (52.00)	3 (12.00)	9 (36.00)	25 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

Table 4.19 shows the association between age of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that in the category of young rural youth age group had maximum of 43.76 per cent of respondents belong to favourable while 28.12 per cent of them belong to category of less favourable and equal per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, out of total middle rural youth age group of respondents, 46.03 per cent were having favourable attitude, 33.33 and 20.64 per cent had more and less favourable attitude regarding participation agricultural activities. While in case of adult rural youth age group, 52.00 per cent of them had less favourable attitude and 36.00 per cent of them had more and 12.00 per cent of them had favourable attitude regarding participation in agricultural activities.

Yate's correction:

As the cell frequencies were less than five, therefore, it was pooled for the purpose of calculating chi-square test and the table be as follows:-

Age	Attitude regarding participation in agricultural activities		Total
	Less favourable	Favourable + More favourable	
Young	9	23	32
Middle	13	50	63
Adult	13	12	25
Total	35	85	120

χ^2 = 8.545, Significant at 0.05 level of probability with 2 d.f, table value=5.99

The Chi-Square value 8.545 was found significant at 2 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that age of rural youth had association with their attitude regarding participation in agricultural activities.

2. Caste :

Table 4.20: Association between caste of rural youth and their attitude regarding participation in agricultural activities

Caste	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
ST	13 (68.42)	3 (15.79)	3 (15.79)	19 (100.00)
SC	8 (34.78)	11 (47.83)	4 (17.39)	23 (100.00)
OBC	13 (25.49)	18 (35.29)	20 (39.22)	51 (100.00)
GEN	1 (3.70)	11 (40.74)	15 (55.56)	27 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

Table 4.20 shows the association between caste of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that in the category of ST category of rural youth had maximum of 68.42 per cent of respondents belong to less favourable while 15.79 per cent of them belong to category of favourable and equal per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, in SC category of respondents, 47.38 per cent were having favourable attitude, 34.78 and 17.39 per cent had less favourable and more favourable attitude regarding participation agricultural activities. While in case of OBC, 39.22 per cent of them had more favourable attitude and 35.29 per cent of them had favourable and 25.49 per cent of them had less favourable attitude regarding participation in agricultural activities. In GENERAL category, maximum 55.56 per cent had more favourable attitude followed by 40.74 and 3.70 per cent had favourable and less favourable attitude.

Yate's correction:

Caste	Attitude regarding participation in agricultural activities		Total
	Less favourable	Favourable + More favourable	
ST	13	06	19
SC	08	15	23
OBC+GEN	14	64	78
Total	35	85	120

χ^2 =19.273, Significant at 0.05 level of probability with 3 d.f, table value=7.815

As the cell frequencies were less than five, therefore, it was pooled for the purpose of calculating chi-square test and the table as above.

The Chi-Square value 19.273 was found significant at 3 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that caste of rural youth had association with their attitude regarding participation in agricultural activities.

3. Type of family:

Table 4.21: Association between type of family of rural youth and their attitude regarding participation in agricultural activities

Type of family	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Nuclear	19 (28.12)	26 (45.31)	11 (26.56)	56 (100.00)
Joint	16 (37.50)	20 (25.00)	28 (37.50)	64 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =7.952, Significant at 0.05 level of probability with 2 d.f, table value=5.99

Table 4.21 shows the association between type of family of rural youth and their attitude regarding participation in agricultural activities. It was

observed from the above table that rural youth having nuclear family, maximum 45.31 per cent belong to favourable attitude while 28.12 per cent of them belong to category of less favourable and 26.56 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having joint family, maximum 43.75 per cent were having more favourable attitude, 31.25 and 25.00 per cent had favourable and less favourable attitude regarding participation agricultural activities.

The Chi-Square value 7.952 was found significant at 2 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that type of family of rural youth had association with their regarding participation in agricultural activities.

4. Size of family:

Table 4.22: Association between size of family of rural youth and their attitude regarding participation in agricultural activities:

Size of family	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Small	6 (14.63)	15 (36.59)	20 (48.78)	41 (100.00)
Medium	18 (33.96)	21 (39.62)	14 (26.42)	53 (100.00)
Large	11 (42.31)	10 (38.46)	5 (19.23)	26 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =10.338, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.22 shows the association between size of family of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having small family, maximum 48.78 per cent belong to more favourable attitude while 36.59 per cent of them belong to category of favourable and 14.63 per cent of them belong to less favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium family, maximum 39.62 per cent were

having favourable attitude, 33.96 and 26.42 per cent had less favourable and more favourable attitude regarding participation agricultural activities. In case of rural youth those who have large family, maximum 42.31 having less favourable attitude followed by 38.46 and 19.23 having favourable and more favourable attitude regarding participation in agricultural activities.

The Chi-Square value 10.338 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that size of family of rural youth had association with their attitude regarding participation in agricultural activities.

5. Education:

Table 4.23: Association between education of rural youth and their attitude regarding participation in agricultural activities

Education	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Illiterate+ can read only+ can read and write	18 (48.65)	11 (29.73)	8 (21.62)	37 (100.00)
Up to primary and middle education	9 (22.50)	20 (50.00)	11 (27.50)	40 (100.00)
High school and above	8 (18.60)	15 (34.88)	20 (46.52)	43 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =13.590, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.23 shows the association between education of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth persuaded illiterate, read only and read and write, maximum 48.65 per cent belong to less favourable attitude while 29.73 per cent of them belong to category of favourable and 21.62 per cent of them belong to less favourable attitude regarding participation in agricultural activities. Similarly, rural youth persuaded primary and middle education, maximum 50.00 per cent were having favourable attitude, 27.50 and 22.50

per cent had more favourable and less favourable attitude regarding participation agricultural activities. In case of rural youth those who have persuaded high school and above, maximum 46.52 having more favourable attitude followed by 34.88 and 18.60having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 13.590 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that education of rural youth had association with their attitude regarding participation in agricultural activities.

6. Marital status:

Table 4.24: Association between marital status of rural youth and their attitude regarding participation in agricultural activities

Marital status	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Unmarried	14 (20.00)	24 (34.29)	32 (45.71)	70 (100.00)
Married	21 (42.00)	22 (44.00)	7 (14.00)	50 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =14.584, Significant at 0.05 level of probability with 2 d.f, table value=5.99

Table 4.24 shows the association between marital status of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth those who were unmarried, maximum 45.71 per cent belong to more favourable attitude while 34.29 per cent of them belong to category of favourable and 20.00per cent of them belong to less favourable attitude regarding participation in agricultural activities. Similarly, rural youth those who were married, maximum 44.00 per cent were having favourable attitude, 42.00 and 14.00 per cent had less favourable and more favourable attitude regarding participation agricultural activities.

The Chi-Square value 14.584 was found significant at 2 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that marital status of rural youth had association with their attitude regarding participation in agricultural activities.

7. Farming experience:

Table 4.25: Association between farming experience of rural youth and their attitude regarding participation in agricultural activities

Farming experience	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	17 (45.94)	14 (37.84)	6 (16.22)	37 (100.00)
Medium	12 (22.64)	24 (45.28)	17 (32.08)	53 (100.00)
High	6 (20.00)	8 (26.67)	16 (53.33)	30 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =13.973, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.25 shows the association between farming experience of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low experience, maximum 45.94 per cent belong to less favourable attitude while 37.84per cent of them belong to category of favourable and 16.22 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium farming experience, maximum 45.28 per cent were having favourable attitude, 32.08 and 22.64 per cent had more favourable and less favourable attitude regarding participation agricultural activities. In case of rural youth those who have high farming experience, maximum 53.33 having more favourable attitude followed by 26.67 and 20.00 having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 13.973 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that farming experience of rural youth had association with their attitude regarding participation in agricultural activities.

8. Involvement in decision making:

Table 4.26: Association between involvement in decision making of rural youth and their attitude regarding participation in agricultural activities

Involvement in decision making	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	16 (53.33)	8 (26.67)	6 (20.00)	30 (100.00)
Medium	10 (20.41)	24 (48.98)	15 (30.61)	49 (100.00)
High	9 (21.95)	14 (34.15)	18 (43.90)	41 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =13.866, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.26 shows the association between involvement in decision making of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low involvement in decision making, maximum 53.33 per cent belong to less favourable attitude while 26.67 per cent of them belong to category of favourable and 20.00 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium involvement in decision making, maximum 48.98 per cent were having favourable attitude, 30.61 and 20.41 per cent had more favourable and less favourable attitude regarding participation agricultural activities. In case of rural youth those who have high involvement in decision making, maximum 43.90 having more favourable attitude followed by 34.15 and 21.95 having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 13.866 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that involvement in decision making of rural youth had association with their attitude regarding participation in agricultural activities.

9. Social participation:

Table 4.27: Association between social participation of rural youth and their attitude regarding participation in agricultural activities

Social participation	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	11 (35.48)	9 (29.24)	11 (35.48)	31 (100.00)
Medium	16 (34.04)	24 (51.06)	7 (14.90)	47 (100.00)
High	8 (19.05)	13 (30.95)	21 (50.00)	42 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =14.091, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.27 shows the association between social participation of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low social participation, maximum 35.48 per cent belong to less favourable attitude while equal per cent of them belong to category of more favourable and 29.04 per cent of them belong to favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium social participation, maximum 51.06 per cent were having favourable attitude, 34.04 and 14.90 per cent had less favourable and more favourable attitude regarding participation agricultural activities. In case of rural youth, those who had high social participation, maximum 50.00 were having more favourable attitude followed by 30.95 and 19.05 having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 14.091 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that social participation of rural youth had association with their attitude regarding participation in agricultural activities.

10. Size of land holding:

Table 4.28: Association between size of land holding of rural youth and their attitude regarding participation in agricultural activities

Size of land holding	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Marginal	6 (25.00)	5 (20.83)	13 (54.17)	24 (100.00)
Small	10 (29.41)	15 (44.12)	9 (26.47)	34 (100.00)
Medium	10 (34.48)	13 (44.83)	6 (20.69)	29 (100.00)
Large	9 (27.27)	13 (39.39)	11 (33.34)	33 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =8.107, Non-significant at 0.05 level of probability with 6 d.f, table value=12.59

Table 4.28 shows the association between size of land holding of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having marginal size of land holding, maximum 54.17 per cent belong to more favourable attitude while 25.00 per cent of them belong to category of less favourable and 20.83 per cent of them belong to favourable attitude regarding participation in agricultural activities. Similarly, rural youth having small size of land holding, maximum 44.12 per cent were having favourable attitude, 29.41 and 26.47 per cent had less favourable and more favourable attitude regarding participation agricultural activities. In case of rural youth those who have medium size of land holding, maximum 44.83 having favourable attitude followed by 34.48 and 20.69 having less favourable and more favourable attitude regarding participation in agricultural activities. Rural youth having

large size of land holding, maximum 39.39 per cent of them had favourable attitude followed by 33.34 and 27.27 per cent had more and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 8.107 was found non-significant at 6 degree of freedom, which shows unfair association between these two variables. Hence the null hypothesis was accepted and it has been concluded that size of land holding of rural youth had no association with their attitude regarding participation in agricultural activities.

11. Annual income:

Table 4.29: Association between annual income of rural youth and their attitude regarding participation in agricultural activities

Annual income	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	11 (35.24)	12 (38.71)	8 (25.80)	31 (100.00)
Medium	15 (44.12)	12 (35.29)	7 (20.59)	34 (100.00)
High	9 (16.36)	22 (40.00)	24 (43.64)	55 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =10.254, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.29 shows the association between annual income of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low annual income, maximum 38.71 per cent belong to favourable attitude while 35.49per cent of them belong to category of less favourable and 25.80 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium annual income, maximum 44.12 per cent were having less favourable attitude, 35.29 and 20.59 per cent had favourable and more favourable attitude regarding participation agricultural activities. In case of rural youth those who have high annual income, maximum 43.64

having more favourable attitude followed by 40.00 and 16.36 having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 10.254 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that annual income of rural youth had association with their attitude regarding participation in agricultural activities.

12. Cosmopoliteness:

Table 4.30: Association between cosmopoliteness of rural youth and their attitude regarding participation in agricultural activities

Cosmopoliteness	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	18 (50.00)	11 (30.56)	7 (19.44)	31 (100.00)
Medium	9 (19.15)	18 (38.30)	20 (42.55)	47 (100.00)
High	8 (21.62)	17 (45.95)	12 (32.43)	37 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =12.174, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.30 shows the association between cosmopoliteness of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low cosmopoliteness, maximum 50.00 per cent belong to less favourable attitude while 30.56per cent of them belong to category of favourable and 19.44 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium cosmopoliteness, maximum 42.55per cent were having favourable attitude, 38.30 and 19.15 per cent had favourable and less favourable attitude regarding participation agricultural activities. In case of rural youth those who have high cosmopoliteness,

maximum 45.95 having favourable attitude followed by 32.43 and 21.62 having more favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 12.174 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that cosmopoliteness of rural youth had association with their attitude regarding participation in agricultural activities.

13. Contact with extension agents:

Table 4.31: Association between contact with extension agents of rural youth and their attitude regarding participation in agricultural activities

Contact with extension agents	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	14 (45.16)	11 (35.48)	6 (19.36)	31 (100.00)
Medium	13 (21.32)	30 (49.18)	18 (29.50)	61 (100.00)
High	8 (28.57)	5 (17.86)	15 (53.57)	28 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =14.655, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.31 shows the association between contact with extension agents of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low contact with extension agents, maximum 45.16 per cent belong to less favourable attitude while 35.48per cent of them belong to category of favourable and 19.36 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium contact with extension agents, maximum 49.18per cent were having favourable attitude, 29.50 and 21.32 per cent had more favourable and less favourable attitude regarding participation agricultural activities. In case of

rural youth those who have high contact with extension agents, maximum 53.57 having more favourable attitude followed by 28.57 and 17.86 having less favourable and favourable attitude regarding participation in agricultural activities.

The Chi-Square value 14.655 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that contact with extension agents of rural youth had association with their attitude regarding participation in agricultural activities.

14. Source of information:

Table 4.32: Association between source of information of rural youth and their attitude regarding participation in agricultural activities

Source of information	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	13 (37.14)	6 (17.14)	16 (45.72)	35 (100.00)
Medium	12 (30.00)	21 (52.50)	7 (17.50)	40 (100.00)
High	10 (22.22)	19 (42.22)	16 (35.56)	45 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =12.668, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.32 shows the association between source of information of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low source of information, maximum 45.72 per cent belong to more favourable attitude while 37.14 per cent of them belong to category of less favourable and 17.14 per cent of them belongd to favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium source of information, maximum 52.50 per cent were having favourable attitude, 30.00 and 17.50 per cent had less favourable and more favourable attitude

regarding participation agricultural activities. In case of rural youth those who have high source of information, maximum 42.22 having favourable attitude followed by 35.56 and 22.22 having more favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 12.668 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that source of information of rural youth had association with their attitude regarding participation in agricultural activities.

15. Economic motivation:

Table 4.33: Association between economic motivation of rural youth and their attitude regarding participation in agricultural activities

Economic motivation	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	15 (39.48)	14 (36.84)	9 (23.68)	38 (100.00)
Medium	15 (30.00)	23 (46.00)	12 (24.00)	50 (100.00)
High	5 (15.62)	9 (28.13)	18 (56.25)	32 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =12.641, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.33 shows the association between economic motivation of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low economic motivation, maximum 39.48 per cent belong to less favourable attitude while 36.84per cent of them belong to category of favourable and23.68 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium economic motivation, maximum 46.00per cent were having favourable attitude, 30.00 and 24.00 per cent had less favourable and more favourable attitude regarding participation agricultural activities. In case of rural youth those who have high economic

motivation, maximum 56.25 having more favourable attitude followed by 28.13 and 15.62 having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 12.641 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that economic motivation of rural youth had association with their attitude regarding participation in agricultural activities.

16. Scientific motivation:

Table 4.34: Association between scientific motivation of rural youth and their attitude regarding participation in agricultural activities

Scientific motivation	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	15 (48.39)	10 (32.26)	6 (19.35)	31 (100.00)
Medium	11 (19.64)	26 (46.43)	19 (33.93)	56 (100.00)
High	9 (27.27)	10 (30.30)	14 (42.43)	33 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =10.203, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.34 shows the association between scientific motivation of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low scientific motivation, maximum 48.39 per cent belong to less favourable attitude while 32.26per cent of them belong to category of favourable and 19.35 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium scientific motivation, maximum 46.43per cent were having favourable attitude, 33.93 and 19.64 per cent had more favourable and less favourable attitude regarding participation agricultural activities. In case of rural youth those who have high scientific motivation, maximum 42.43 having more favourable attitude followed by 30.30

and 27.27 having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 10.203 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that scientific motivation of rural youth had association with their attitude regarding participation in agricultural activities.

17. Risk preference:

Table 4.35: Association between risk preference of rural youth and their attitude regarding participation in agricultural activities

Risk preference	Attitude regarding participation in agricultural activities			Total
	Less favourable	Favourable	More favourable	
Low	13 (41.94)	12 (38.71)	6 (19.35)	31 (100.00)
Medium	16 (26.67)	27 (45.00)	17 (28.33)	60 (100.00)
High	6 (20.69)	7 (24.14)	16 (55.17)	29 (100.00)
Total	35	46	39	120

(Figures in parentheses indicate percentage)

χ^2 =11.353, Significant at 0.05 level of probability with 4 d.f, table value=9.49

Table 4.35 shows the association between risk preference of rural youth and their attitude regarding participation in agricultural activities. It was observed from the above table that rural youth having low risk preference, maximum 41.94 per cent belong to less favourable attitude while 38.71per cent of them belong to category of favourable and 19.35 per cent of them belong to more favourable attitude regarding participation in agricultural activities. Similarly, rural youth having medium risk preference, maximum 45.00per cent were having favourable attitude, 28.33 and 26.67 per cent had more favourable and less favourable attitude regarding participation agricultural activities. In case of rural youth those who have high risk preference, maximum 55.17 having more favourable attitude followed by

24.14 and 20.69 having favourable and less favourable attitude regarding participation in agricultural activities.

The Chi-Square value 11.353 was found significant at 4 degree of freedom, which shows fair association between these two variables. Hence the null hypothesis was rejected and it has been concluded that risk preference of rural youth had association with their attitude regarding participation in agricultural activities.

4) To find out constraints and suggestions for enhancing the participation of rural youth in agricultural activities:

To know the constraints and suggestions perceived by rural youth, all 120 respondents were interviewed. Data regarding to the constraints were recorded and presented in the table 4.36 and table 4.37.

Table 4.36: Distribution of respondents according to locate the constraints perceived by the rural youth regarding participation in agricultural activities

S.No.	Constraints	Frequency	Mean	Rank
I.	**Psychological constraints**			
1.	Lack of foresight	74		
2.	Lack of knowledge	80		
3.	Lack of education	77		
4.	Lack of enthusiasm	111	90.00	II
5.	Lack of patience	117		
6.	Lack of cooperation from peers	48		
7.	Lack of agricultural management experience	109		
8.	Drudgery involved in agriculture	104		
II.	**Social constraints**			
1.	Participation in other social activities	106		
2.	Lack of inclination regarding traditional job	100		
3.	Lack of faith by seniors of the family	78	90.33	I
4.	Decreased land holding size due to division of family	82		
5.	Lack of rural youth organization	96		
6.	Early marriage	80		

III.	**Technical constraints**			
1	Lack of appropriate technology and its use	107	83.83	III
2.	Non availability of improved farm inputs	64		
3.	High cost of new technology	84		
4.	Lack of knowledge of packages and practices	90		
5.	Lack of mandi rate	43		
6.	Fluctuation of climate (climate change)	115		
IV.	**Economical constraints**			
1.	High cost of input	78	82.33	IV
2.	Price fluctuation	91		
3.	Persistence of old debt	66		
4.	High labour cost	82		
5.	Lack of agricultural insurance	97		
6.	Poor return of investment	80		
V.	**Extension related constraints**			
1.	Untimely reaching of message	103	80.40	V
2.	Irregular visit of RAEO's	70		
3.	Demonstration related problem	80		
4.	Unavailability of technical literature	75		
5.	RAEO's only contact with large farmers	74		
VI.	**Other constraints**			
1.	Migration of youth	78	62.50	VI
2.	Lack of support from government and other organizations	47		
Overall mean		**81.65**		

The constraints reported by the rural youth attitude regarding their participation in agricultural activities. It is evident from the data that the major constraints as expressed by rural youth were social constraints (90.33) and psychological constraints (90.00) receiving first and second rank respectively, followed by technical constraints (83.83), economical constraints (82.83), extension related constraints (80.40) and other constraints (62.50) having third, fourth, fifth and sixth rank. In social constraints, participation in other social activities and lack of inclination towards traditional job considered to be the major social constraints. Similarly, in psychological and technical constraints, lack of patience and lack of appropriate technology and its use

considered to be the major one. Further in economical, extension related and other constraints, price fluctuation, untimely reaching of message and migration of rural youth considered as major constraints.

Table 4.37: Distribution of respondents according to locate the suggestions perceived by the rural youth regarding participation in agricultural activities

S.No.	Suggestions	Frequency	Mean	Rank
I.	**Psychological suggestions**		94.60	IV
1.	Youth must take interest on agriculture	65		
2.	Youth must have foresightness	90		
3.	Youth must acquire higher education	114		
4.	Be motivated for innovation in agriculture	120		
5.	Practice for updating information	84		
II.	**Social suggestions**		85.60	VI
1.	Youth must have inclination regarding traditional job	74		
2.	Seniors should guide rural youth	110		
3.	Establishing rural youth organization	91		
4.	Farmer should given proper respect in the society	77		
5.	Experience persons must help rural youth in adopting agriculture as a profession	76		
III.	**Technical suggestions**		98.75	I
1	Training should given one time in a month	91		
2.	Timely availability of farm inputs	94		
3.	New technology provided at minimum cost	90		
4.	Special concerns should be taken on climate change	120		
IV.	**Economical suggestions**		96.00	II
1.	Crop insurance should be made easy	84		
2.	Stability in price	105		
3.	Loan procedure made easy	80		
4.	Prices of crops should be change according to the farmers' convenience	115		

V.	**Extension related suggestions**			
1.	Extension officer should motivate farmer for Kisan credit card, Kisan call center and Kisan mobile advisory.	90	95.83	III
2.	Scientists should visit the farm and solve problems with proper demonstrations	104		
3.	Agriculture fair, exhibition, health camps should be organize at panchayat level	95		
4.	Farmer should take help of DD KISAN channel, television and radio	100		
5.	Training should be organize by the KVK according to the farmer needs	102		
6.	Knowledge about ICTs	84		
VI.	**Other suggestions**		88.16	V
1.	Village leadership must improve on ground level basis touching the root problems of the farmers	85		
2.	Establishing Agri-rural youth clubs focusing on agriculture	77		
3.	Training on skill development should be provided	89		
4.	Unused land of village should be made available for rural youth on lease for agriculture	74		
5.	Timely diffusion of adoption process for enhancing agriculture	106		
6.	Attracting rural youth in agriculture programme should be conducted to discourage rural youth migration	98		
Overall mean		**93.15**		

The suggestions reported by the rural youth attitude regarding their participation in agricultural activities. It is evident from the data that the major suggestions as expressed by rural youth were on technical (98.75) and economical (96.00) receiving first and second rank respectively, followed by extension related (95.83), psychological (94.60), other (88.16) and social suggestions (85.60) having third, fourth, fifth and sixth rank. In technical and economical suggestions, special concerns should be taken on climate change and prices of crops should be change according to the farmers' convenience considered to be the most frequent suggestion given by the respondents. Similarly in case of extension related and psychological suggestions, Scientists

should visit the farm and solve problems with proper demonstrations and be motivated for innovation in agriculture considered to be the major suggestions to be concerned. Finally in other and social suggestions, timely diffusion of adoption process for enhancing agriculture and seniors should guide rural youth emerged as the major suggestions replied by the respondents.

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ABSTRACT

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ABSTRACT

According to population census 2011, India had total youth population of 325.2 millions, which is 35% of the total population. Out of this, about 70% were rural youth and remaining 30% were urban youth. As majority of the youth comes from rural areas, they are considered as the nation builders of tomorrow. This important section of the rural population can respond to the needs of country only if they are offered fruitful opportunities for growing up as useful citizens.

With a growing world population and a decreasing agricultural productivity in combination with a rural exodus, India is losing more than 2000 farmers every single day and that since 1991, the overall number of farmers has dropped by 15 million (Sainath, 2013). This has several implications for the future of Indian agriculture and India's food security. Rural youth can play an important role in ensuring food security if they are encouraged to involve in farming and the challenges they face are addressed. Over the past few years, rural youth have been shying away from agriculture and globally there is an increasing interest in finding ways of engaging youth in agriculture (IFAD, 2012; Paisley, 2013). Currently, there is a challenge of retaining youngsters in agriculture due to various socio-economic factors, including profitability in agricultural pursuits. It has become imminent to reorient agricultural practices to make them intellectually satisfying and economically rewarding for the youth. Nearly 70% of India's population is below the age of 35 years making India the youngest nation in the world and interestingly 70% of them live in rural areas. In 2020, the average Indian will be only 29-years-old, whereas in China and the United States of America the average age is estimated to be 37 years. We may utilize this demographic dividend for taking Indian agriculture to new heights by channelizing the creative energies of the youth through development of skills, knowledge and attitudes. The study was taken as Jabalpur district, Patan block revealed that maximum of rural youth had favourable attitude regarding participation in agricultural activities. Though youth have desirable qualities that can promote agriculture, most of them have strong apathy toward it.

The age, caste, type of family, size of family, education, marital status, farming experience, involvement in decision making, social participation, annual income, cosmopoliteness, contact with extension agent, source of information, economic motivation, scientific motivation and risk preference had significant association with attitude of rural youth regarding participation in agriculture only size of land holding found to be non significant.

This study revealed that various constraints were found among the rural youth. So, categorizations were made i.e. in social constraints, participation in other social activities and lack of inclination towards traditional job considered to be the major social constraints. Similarly, in psychological and technical constraints, lack of patience and lack of appropriate technology and its use considered to be the major one. Further in economical, extension related and other constraints, price fluctuation, untimely reaching of message and migration of rural youth considered as major constraints.

As per suggestions are concerned categorization were made i.e. in technical and economical suggestions, special concerns should be taken on climate change and prices of crops should be change according to the farmers' convenience considered to be the most frequent suggestion given by the respondents. Similarly in case of extension related and psychological suggestions, Scientists should visit the farm and solve problems with proper demonstrations and be motivated for innovation in agriculture considered to be the major suggestions to be concerned. Finally in other and social suggestions, timely diffusion of adoption process for enhancing agriculture and seniors should guide rural youth emerged as the major suggestions replied by the respondents.