ADOPTION BEHAVIOUR OF FARMERS ABOUT PRADHAN MANTRI FASAL BIMA YOJANA

THESIS

Submitted to
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola
in partial fulfilment of the requirements
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MASTER OF SCIENCE
IN
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By

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Enrolment Number – PP/3376 **2019**

DECLARATION OF STUDENT

I hereby declare that the experimental work and its interpretation of the thesis entitled **"ADOPTION BEHAVIOUR OF FARMERS ABOUT PRADHAN MANTRI FASAL BIMA YOJANA"** or part thereof has neither been submitted for any other degree or diploma of any University, nor the data have been derived from any thesis / publication of any University or Scientific Organization. The sources of material used and all assistance received during the course of investigation have been duly acknowledged.

Place: Akola. **(Sunil Kumar Meena)**

Date : / / 2019 Enrolment No – PP/3376

CERTIFICATE

This is to certify that the thesis entitled **"ADOPTION BEHAVIOUR OF FARMERS ABOUT PRADHAN MANTRI FASAL BIMA YOJANA"** submitted in partial fulfillment of the requirements for the degree of **"Master of Science in Agriculture (Extension Education)"** of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola is a record of bonafide research work carried out by **Sunil Kumar Meena** under my guidance and supervision.

The subject of thesis has been approved by the Student's Advisory Committee

Place : Akola
Date : / /2019

(Dr. P. K. Wakle)
Chairman
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THESIS APPROVED BY THE STUDENT'S ADVISORY COMMITTEE INCLUDING EXTERNAL EXAMINER (AFTER VIVA–VOCE)

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Place: Akola (Sunil Kumar Meena)

Date: / /2019 Enrolment No.- PP/3376

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(A) List of Tables

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(C) List of Plates

D) List of Abbreviations

%	-	Per cent
/	-	Per
@	-	at the rate
Agril.	-	Agricultural
AI	-	Awareness index
Avg.	-	Average
DAC & FW	-	Department of Agriculture Cooperation & Farmer welfare
Dist.	-	District
Dr. P.D.K.V.	-	Dr. Panjabrao Deshmukh Krishi Vidyapeeth,
e.g.	-	for example
Edn.	-	Education
et al	-	et alia(and others)
etc	-	Et cetra
Ext.	-	Extension
Fig	-	figure
Govt.	-	Government
ha	-	Hectare
i.e.	-	That is
J	-	Journal
M.S.	-	Maharashtra
No.	-	Number
PMFBY	-	Pradhan mantra Fasal Bima Yojana
Res.	-	Research
Resp.	-	Respectively

Rev.	-	Review
Rs.	-	Rupees
SD	-	Standard Deviation
Soc.sci	-	Social Science
Sl. no.	-	serial number
SI	-	sum of insured
Univ.	-	University
Unpub.	-	Unpublished
viz.	-	Namely
$\overline{X}$	-	Mean

E) Thesis Abstract

a)	**Title of the thesis**	**:**	**"ADOPTION BEHAVIOUR OF FARMERS ABOUT PRADHAN MANTRI FASAL BIMA YOJANA"**
b)	**Full name of student**	**:**	**Sunil Kumar Meena**
c)	**Name and address of Major Advisor**	**:**	**Dr. P. K. WAKLE** Professor (CAS) Section of Extension Education, College Of Agriculture, Akola, Dr. PDKV, Akola (Ms)
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j)	**Signature, name and address of forwarding authority**	**:**	

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ABSTRACT

The present study entitled "Adoption Behaviour of farmers about Pradhan Mantri Fasal Bima Yojana (PMFBY)" was conducted in

Washim district of Maharashtra state. For present study, respondents were selected by using random sampling method. The main objectives of the study were to study the Adoption behaviour of the framers, the constraints faced by the respondents in adoption of scheme by using exploratory design of social research with data were collected by personally interviewing with help of presented and well-structured interview schedule and data were subjected to appropriate statistical analysis. The score was assigned to measure independent and dependent variables and simple per cent was worked out to describe the characteristics of respondents. Coefficient of correlation was worked out to find the relationship between the variables.

The salient findings of the present study revealed that, 62.50 per cent of the respondents belonged to middle age category with high school level education (31.67%), Majority of the respondents i.e. 40.00 per cent had possessed semi medium category of land holding up to 2.01 to 04.00 ha, Majority the respondents i.e. 46.67 per cent had occupation agriculture (Farming). Majority the respondents i.e. 35.00 per cent of respondents annual income had between Rs 100001/- to 150000. majority (83.33 %) of the farmers belonged to Kharif cropping pattern category Majority, i.e. 72.50 per cent of the respondents had medium level of sources of information, Majority, of the respondents had medium innovativeness (64.17 %), and Majority of the respondents had medium level of risk orientation (67.50%). Majority of the respondents had medium level of knowledge about Pradhan Mantri Fasal Bima Yojana (72.50 %), Majority i.e. 65.83% of the respondents belongs to moderately level of attitude towards Pradhan Mantri Fasal Bima Yojana.

There was selected one variable for study i.e. adoption Behaviour of farmers. This have calculated three components viz, Awareness, Interest and Adoption. Majority of respondents 52.50 per cent medium level of adoption behaviour about Pradhan Mantri Fasal Bima Yojana. As regard awareness had 65.83 per cent of medium level, Majority of respondents of 53.33 per cent had medium category and adoption of

Pradhan Mantri Fasal Bima Yojana in soybean crop 52.50 per cent of respondents had high level category.

For relation analysis it was inferred that, the socio-economic communicational and psychological characteristic like Education, farming experience, cropping pattern, innovativeness and knowledge to found positive and significant relationship with adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana at 0.05 per cent. Sources of information, Risk orientation and attitude to found positive and significant relationship with adoption behaviour of farmers about Pradhan Mantri Fasal Bima yojana.at 0.01 per cent probability

Majority of respondents constraint faced was 68.33 per cent Unavailability of insurance agent at village level followed by How to measure/ assess loss (65.00 %) Problem of improper reporting in case of losses (60.00 %), Delay in payment of insurance claims (52.50 %), Local government staff not popularizing scheme (45.00 %) and Rate of premium is very high (41.67 %).

CHAPTER I

INTRODUCTION

1.1 Background information

Agriculture is backbone of Indian economy. The share of agriculture and allied sector in total Gross Domestic Product (GDP) is 16.00 per cent in Indian economy. In India 70.00 per cent of population depend on agriculture. Progress of our nation is impossible without the development of the agriculture. The economic growth is depending upon achievement of greater output in agriculture sector. Agriculture plays vital role in development of country. But Indian agriculture is characterized by risk bearing and uncertainty because of many factors like, lack of technology, lack of knowledge of risk mitigation, irrigation, weather condition, usage of seeds, fertilizers pesticide, uncertainty in monsoon, lack of input supply facilities, non-availability proper market facility, pest and diseases, the higher expenditure as compared to production, uncertain income in each year and Government failure in disseminating information on crop insurance, that why farmers attempt to commit the suicides. In India farmer's suicide ratio is higher as compared to others country, In India 11,744 farmers have committed suicides in the year 2013 to 2014. Every 40 minutes one farmer commits suicide in the country. A total of 2, 96,438 farmers have committed suicide in India since 1995. This situation has been created all over county because of all these factors. (Sources: NCRB,2013)

The agricultural sector in India has been accorded top priority since independence. A cursory look at the growth of agriculture in the past five decades indicates that agricultural production has reached comfortable heights especially after the Green Revolution. India has reached a stage of self-sufficiency, but it is still dominated by nature, which means that the instability still haunts agricultural sector and seriously threatens the Indian farmers' ability to step up the agricultural output and their viability. It has been observed that in the Indian sub-continent, fluctuations in crop yields

have mainly been due to the clemencies of weather. The presence of ups and downs in dry land agricultural production over the years bears ample testimony to the continuing instability in agriculture. Instability in the agricultural sector cannot be completely eliminated, but its adverse effects can be minimized through various measures

Different strategies have so far been evolved by the government to combat these risks and uncertainties. Some of them include providing tax remissions, waiving off loans and interest on loans, drought or flood relief measures etc. However, a major hurdle in such types of reliefs is that such measures depend primarily on the policies as well as on the resources of the government. Therefore, though these measures guaranteed some security in a situation at uncertainty, it in fact made the farmers to wait in anticipation for some relief when there is a loss. Farmers, on the other hand sought to reduce those risks by utilizing modern technology, diversifying the agricultural operations through intercropping or through the flexible use of fertilizers, pesticides etc. But again, one major impediment here was that by and large financial facilities were utterly inadequate amongst the Indian farmers. Thus, because of these drawbacks, the policymakers of the country have sought insurance of crops as a feasible measure to combat against the risks and hazards and provide protection to the farmers. Hence, Government of India started offering widespread crop insurance in 1985, with the Comprehensive Crop Insurance Scheme**.** This encouraged them to carry on with their productive efforts, which not only improved the wellbeing of the farmers but also helped in stabilizing the agricultural output.

1.1.1 The principal benefits derived by the farmers from crop insurance are as follows:

(i) Crop insurance prevents farmers from financial disasters due to crop failure through its indemnity function.

(ii) It improves the position of farmers in relation to agricultural credit. As crop insurance guarantees protection against crop failure, the insured farmers have a better credit rating, when a loan is provided to them. It

also considerably strengthen the financial position of the involved agricultural cooperative credit institutions,

(iii) The crop insurance scheme, besides stabilizing farmers' income by indemnifying them for damage to their crops, plays a positive role of increasing productivity through prevention and limitation of the operation of natural calamities especially plant, pests and disease infestations.

(iv) Crop insurance contributes to greater stability of the economy by spreading economic damage resulting from crop losses over time and space.

The Government of India had temporarily suspended the operation of the Comprehensive Crop Insurance Scheme (CCIS) from April 1, 1988 but again started the scheme during *kharif* 1988 (while in Karnataka, the State Government decided to continue the crop insurance scheme during 1989-90). The Comprehensive Crop Insurance Scheme (CCIS) was in operation till Rabi 1999 (Samota Santosh, 2015).

The following were some of the shortcomings of the Comprehensive Crop Insurance Scheme (CCIS)

(i) It was financially non-viable.

(ii) Predominance of rainfed crops like oilseeds, pulses and millets.

(iii) Coverage of loanee farmers only.

(iv) Coverage of limited number of crops and exclusion of important commercial and horticultural crops.

Keeping in view, the demands of states, farming communities, etc., for improving the scope and content of comprehensive crop insurance scheme, a new crop insurance scheme entitled "National Agricultural Insurance Scheme (NAIS)" was introduced in the country from *Rabi* 1999-2000. The National Agricultural Insurance Scheme provides for greater coverage in terms of farmers (i.e. non-loanee farmers brought under coverage).

1.1.2 Major Crop Insurance schemes in India

The summary of important crop insurance schemes evolved in India is as follows:

a) Scheme based on 'Individual' approach, 1972-1978

b) Pilot Crop Insurance Scheme (PCIS), 1979-1984

c) Comprehensive Crop Insurance Scheme (CCIS), 1985-1999

d) Experimental Crop Insurance Scheme, (ECIS), 1997-98

e) National Agricultural Insurance Scheme (NAIS), 1999

The National Agricultural Insurance Scheme (NAIS) was introduced in the country from the Rabi season of 1999-2000. Agricultural Insurance Company of India Ltd. (AIC) which was established in December, 2002 and started operating from April, 2003 took over the implementation of NAIS. This scheme was available to both loanee and non-loanee. It covered all food grains, oilseeds and annual horticultural/commercial crops for which past yield data were available for an adequate number of years.

f) Modified National Agricultural Insurance Scheme (MNAIS)

Govt. of India, on 28th Sept., 2010, came out with Modified National Agricultural Insurance Scheme (MNAIS) implemented in 50 selected districts of India on pilot basis in place of National Agricultural Insurance Scheme (NAIS) and NAIS was to be withdrawn for both loanee and non loanee farmers from those area/crops where MNAIS was implemented.

g) Weather Based Crop Insurance Scheme (WBCIS)

Weather Based Crop Insurance Scheme (WBCIS) was introduced in the country from Rabi 2007-08. WBCIS aimed to mitigate hardships of insured farmers against likelihood of financial loss on account of anticipated crop loss resulting from incidence of adverse conditions of weather parameters like deficit or excess rainfall and also other parameters like temperature, frost, humidity and wind, etc.

Weather Based Crop Insurance Scheme (WBCIS) was a product designed to provide insurance protection against losses in crop

yield resulting from adverse weather incidences. It provides payout against adverse rainfall incidence (both deficit and excess) during *Kharif* and adverse incidences of weather like frost, heat, relative humidity, un-seasonal rainfall etc. during Rabi. It was not yield guarantee insurance.

h) Pradhan Mantri Fasal Bima Yojana (PMFBY)

Pradhan Mantri Fasal Bima Yojana was announced by the Government of India on 13th January 2016. It envisages a uniform premium of only 2.00 per cent to be paid by farmers for *Kharif* crops and 1.50 per cent for Rabi crops. The premium for annual commercial and horticultural crops is 5.00 per cent. This scheme allowed the farmers to pay a very low premium to insure their crops. The difference between the premium paid by the farmers and the premium fixed by the insurance companies is subsidized and there is no cap on the maximum subsidy to be paid by the Government. The subsidy is borne equally by central and the respective state Governments. So far, farmers were paying as high as 15.00 per cent of the sum insured as premium under the existing National Agricultural Insurance Scheme and the Modified National Agricultural Insurance Scheme. The new scheme has replaced all these existing crop insurance schemes.

In India, the number of farmers issued under PMFBY during 2016-17 and 2017-18 are 57487764 and 47912032 respectively. From this number of loanee and non-loanee farmers are 43699666 and 13788098 during 2016-17 and that of 34911451 and 13000581 respectively. In Maharashtra, the number of farmers issued under PMFBY during 2016-17 and 2017-18 are 12006332 and 9812628 respectively. From this number of loanee and non-loanee farmers are 4089619 and 7916713 during 2016-17 and that of 2113915 and 769873 respectively. (Source:- www.indiastat.com, 2019)

The fund realised by central govt under various scheme for crop insurance in India during 2016-17 and 2017-18 11054.63 crore and 8058.75 crore. (Source: - www.indiastat.com, 2019)

A. The objective of the scheme includes:

1. To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases.
2. To stabilize the income of farmers to ensure their continuance in farming.
3. To encourage farmers to adopt innovative and modern agricultural practices.
4. To ensure flow of credit to the agriculture sector.

The difference between premium rate and the rate of insurance charges payable by farmers shall be treated as Rate of Normal Premium Subsidy, which shall be shared equally by the Centre and State. AIC (Agriculture Insurance Company) shall calculate low cost premium rates (till an Independent Agency takes over) based on latest available yield data in month of February for *Kharif* crops and August for *Rabi* crops as per requirement of the States and shall provide to DAC&FW/Concerned States before invitation for premium bidding. State Govt. would invite all the empanelled insurance companies to quote their actuarial premium rates for the notified crop(s) in the notified insurance unit area, considering Indemnity Level, Threshold Yields and Sum Insured etc. as indicated by the State for the season.

B. Salient Features and Benefits*:*

1. The farmers' package policy is underwritten by the General Insurance Companies empanelled by DAC&FW under crop insurance programme and designated by this Department or through GIC Companies having tie-up with concerned F.I./Banks for non-crop sections of the policy.
2. The policy contains 7 Sections. Crop Insurance is mandatory. However, farmers have to choose at least two other sections also to avail the applicable subsidy under crop insurance section.
3. In case of crop insurance, applicable farmers' share of premium ranging between 1.5 per cent to 5 per cent based on their insured

crops is payable by farmer & in case actuarial premium is more, the Government will provide subsidy equivalent to the difference between actuarial premium and premium paid by farmer. The crop insurance is based on area approach whereas all other sections are on individual basis.

4. If the farmers already availed any insurance policy of similar nature and sum insured not less than as mentioned in the policy, than they would be exempted from taking such section however, details of such policy would be provided in their proposal form.
5. The rates above are indicative & subject to the concurrence of the insurers.
6. Sum insured and premium rates are provisionally taken and may change according to the risk.
7. The above premium rates are without service tax which is likely to be exempted.

C. Risks to be covered & exclusions:

Risks: Following risks leading to crop loss are to be covered under the Scheme:-

1. Yield losses (standing crops, on notified area basis):- Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks, such as

I. Natural Fire and Lightning
II. Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, Tornado etc.
III. Flood, Inundation and Landslide
IV. Drought, Dry spells
V. Pests/ Diseases etc.

2. Prevented sowing (on notified area basis):

In cases where majority of the insured farmers of a notified area, having intent to sow/plant and incurred expenditure for the purpose, are prevented from sowing/planting the insured crop due to adverse

weather conditions, shall be eligible for indemnity claims up to a maximum of 25.00% of the sum-insured.

3. Post- harvest losses (individual farm basis):

Coverage is available up to a maximum period of 14 days from harvesting for those crops which are kept in “cut & spread” condition to dry in the field after harvesting, against specific perils of cyclone / cyclonic rains, unseasonal rains throughout the country.

4. Localised calamities (individual farm basis):

Loss / damage resulting from occurrence of identified localized risks i.e. hailstorm, landslide and Inundation affecting isolated farms in the notified area.

5. Exclusions:

Risks and Losses arising out of following perils shall be excluded: - War & kindred perils, nuclear risks, riots, malicious damage, theft, act of enmity, grazed and destroyed by domestic and/or wild animals, in case of post–harvest losses the harvested crop bundled and heaped at a place before threshing, other preventable risks.

6. Premium rates:

The Actuarial Premium Rate (APR) would be charged under PMCIS by IA. DAC&FW/States will monitor the premium rates considering the basis of Loss Cost (LC) i.e. Claims as % of Sum Insured (SI) observed in case of the notified crop(s) in notified unit area of insurance (whatsoever may be the level of unit area) during the preceding 10 similar crop seasons (*Kharif /Rabi*) and loading for the expenses towards management including capital cost and insurers margin and taking into account non-parametric risks and reduction in insurance unit size etc.. The rate of Insurance Charges payable by the farmer will be as per the following Table 1.

Table 1. Premium rate of different season

Sl. No	Season	Crops	Maximum Insurance (% of Sum Insured)
1	Kharif	Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	2.0 % of SI
2	Rabi	Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	1.5 % of SI
3	Kharif & Rabi	Annual Commercial / annual Horticultural crops	5 % of SI

(Source: www.pmfby.co.in, 2019)

Suitability:-

a) This policy is designed to take care of the insurance needs of farmers associated with agriculture activities. This policy provides yield based crop insurance to the farmer based on his ownership rights of land and sown crop.

b) It covers both the personal assets of the farmer like the dwelling & its contents (Fire), the other assets which help him in earning his livelihood such as Agricultural Pump Sets and Agriculture Tractor owned by farmer.

c) The policy also provides protection to farmer and his/her family members in case of the Accidental Death / Disablement, accidental insurance protection of farmer's school/college going children and provisioning of education fee to the students in case of death of parent.

d) Life insurance protection to the farmer and his/her family members.

e) The policy will be issued for a period up to 1 year.

1.1.3 Implementation of Pradhan Mantri Fasal Bima Yojana in 2017-18: Key Features:

The data generation process for the seasons Kharif 2017 and Rabi 2017/18 is still underway and our insights are only subject to those data that is available from various companies as of May, 2018. Hence,

enrollment, area coverage and premium data is quite reliable. However, claims data is mostly incomplete, especially for Rabi season.

a. Farmer Enrollment

i. Total farmers insured under the scheme in Year 2017-18 were 5.01 crores. This was a reduction of 10.27% from 2016-17. Assam, Jammu & Kashmir, Orissa, Karnataka and Meghalaya saw the highest gains in enrollment. Bihar, Goa, Kerala, Rajasthan and Uttar Pradesh saw a fall in enrollment.

ii. Enrollment in Kharif 2017 was 3.6 crores (a reduction of 8% from 2016). The states of Assam, Jammu & Kashmir, Kerala and Sikkim witnessed Kharif season enrollment in 2017-18 whereas in 2016 there was no enrollment in these states.

iii. Enrollment in Rabi 2017-18 was 1.39 crores (a reduction of 16.12% from 2016-17). Assam, Karnataka, Kerala and Rajasthan saw the biggest dips in Rabi enrollment as compared to 2016-17.

b. Area Coverage

I. Total area insured under the scheme in Year 2017-18 was 4.89 crore hectares. This was a reduction of 13.27% from 2016-17. Assam, Jammu & Kashmir, Manipur, Meghalaya and Sikkim saw the highest gains in area coverage. Whereas states of Goa, Karnataka, Maharashtra and Tripura saw highest declines in area covered under the insurance.

II. Area insured in Kharif 2017 was 3.32 crore hectares (a reduction of 10% from 2016-17). Assam, Jammu & Kashmir, Meghalaya, Sikkim, Karnataka and Tamil Nadu saw the highest gains in area coverage. Whereas states of Bihar, Goa, Haryana, Jharkhand, Maharashtra, Uttar Pradesh and Uttarakhand saw large fall in area covered under Kharif.

III. Area insured in Rabi 2017-18 was 1.56 crore hectares (a reduction of 20.26% from 2016- 17). Andhra Pradesh, Jammu & Kashmir, Manipur and Uttarakhand saw the highest gains in area coverage. Whereas

states of Goa, Karnataka, Maharashtra and Tripura saw large fall in area covered under Rabi.

IV. The area insured per farmer in 2017-18 was 0.98 hectares, which was .02 hectares lesser than 2016-17.

c. Sum Insured

I. The total sum insured under the scheme in year 2017-18 was Rs. 1.91 lakh crores with a marginal 0.12% increase from 2016-17. Assam, Jammu & Kashmir, Manipur, Meghalaya, Sikkim and Tamil Nadu saw high gains in sum insured whereas Kerala, Himachal Pradesh, Tripura and Jharkhand witnessed the largest fall in sum insured

II. Sum insured in Kharif 2017 was Rs. 1.22 lakh crores which was 1.58% lower than Kharif 2016.

III. In Rabi 2017-18, sum insured was Rs. 68, 000 crores which was a gain of 3.16% from Rabi 2016-17.

IV. Sum insured per farmer increased by Rs. 4,597 per farmer and sum insured per hectare increased by Rs. 3,580 in 2017-18 as compared to 2016-17.

d. Premiums

i. The total premium collected by insuring agencies in year 2017-18 was Rs. 23,206.18 Crores. It was an increase of 11.6% compared to the collections in 2016-17.

ii. The total premium paid by farmers was Rs. 3916.98 Crores which was a fall of 1.02 % from the previous year.

iii. The premiums paid by the central and state governments were Rs. 9,679 Crores each.

iv. The average premium paid per farmer was Rs. 4,634 which was 20% increase from year 2016-17.

1.1.4 Status of Pradhan Mantri Fasal Bima Yojana in Maharashtra:

a. Kharif 2016

The total number of farmers enrolled in Kharif 2016 in Maharashtra is 1.09 Crores. Out of this, 34.34% are Loanee and 65.66% are non-loanee farmers. The total area insured is 65.08 Lakhs Ha. The total sum insured is Rs. 20262.66 Crores. The total premium collected by all insuring agencies is Rs. 3941.22 Crores. The total beneficiary farmers are 27.52 Lakhs. The total claims paid out/reported are Rs. 1890.40 Crores. The district with the highest farmer enrolment was Beed (12.44%) and lowest enrolment is Sindhudurga (0.01%). The district with the highest enrolment of non-loanee farmers is Beed (16%) and lowest enrolment of non-loanee farmers is Ratnagiri (0%). The district with the highest area insured is Jalna (8.57%) and the lowest area insured is Sindhudurga (0.00%). The district with the highest sum insured is Latur (8.04%) and the lowest sum insured is Sindhudurga (0.01%). The district that had the highest number of beneficiary farmers is Beed (21.81%). The district that received the highest claims is Nanded (26.79%) and the lowest claims is Bhandara (0.00%).

b. Rabi 2016-17

The total number of farmers enrolled in Rabi 2016-17 in Maharashtra is 8.67 Lakhs. Out of this, 18.02% are Loanee and 81.97% are non-loanee farmers. The total area insured is 5.64 Lakhs Ha. The total sum insured is Rs. 1,562.81 Crores. The total premium collected by all insuring agencies is Rs. 60.24 Crores. The total beneficiary farmers are 33,942. The total claims paid out/reported are Rs. 29.30 Crores. The district with the highest farmer enrolment was Osmaabad (25.44%) and lowest enrolment is Ratnagiri (0.0%). The district with the highest enrolment of non-loanee farmers is Latur (24.85%) and lowest enrolment of non-loanee farmers is Gondia (0.00%). The district with the highest area insured is Latur (20.23%) and the lowest area insured is Ratnagiri (0%). The district with the highest sum insured is Latur (18.13%) and the lowest sum insured is Thane (0.00%). The district that had the highest number of beneficiary farmers is Ahmednagar (52.68%). The district that received the

highest claims is Ahmednagar (62.97%) and the lowest claims is Thane (0.00%). (Sources: Ranjan Kumar Ghosh, 2018)

1.2 Objective of study:-

1. To study the personal, socio-economic, communication and psychological characteristics of farmers
2. To study adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana
3. To study relationship between selected characteristics of farmers with their adoption behaviour about Pradhan Mantri Fasal Bima Yojana
4. To identify the constraints faced by farmers in the adoption of Pradhan Mantri Fasal Bima Yojana

1.3 Hypothesis

The research hypothesis mentioned below are developed on the basis of finding of previous research study.

The hypothesis are set up and presented in null hypothesis (Ho) as below.

Ho: There is no significant relationship between the selected personal, sociological, psychological and situational characteristics of the respondent of Pradhan Mantri Fasal Bima Yojana and adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana.

1.4 Scope of the study

Maharashtra Government has taken number of initiatives for agricultural development as well as extension to benefit the farmers in the state, which is noticed through the increase in production over last five decades. Farmers in the district are already taking new innovative idea or technique for their development and also to overcome the problems in various fields of agriculture. We select the exploratory research design for study. Main aim is to collect the necessary information from the farmers and to make it fulfil and to know the adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana. This will help policy makers and

government to initiate new crop insurance schemes with broad aspects. This initiatives will help farmers to uplift their socio-economic condition.

1.5 Limitations of the study

The present study has its own limitations of time and resources as an individual student researcher. However, considerable care and thought was exercised in making the study as scientific, systematic and fulfil the objective. This study was conducted to collect the information concerned with Adoption Behaviour of Farmer about Pradhan Mantri Fasal Bima Yojana and this study was restricted to 120 respondents in 12 villages from 3 tahsils viz, Washim, Malegaon, and Risod which constitute very small section of Washim district. The study limited for only one agriculture year. Due to limitations of time and resources, it was not possible for the researcher to go into more details to cover a large area and entire aspects of research study.

1.6 Organization of thesis

The present study has been presented in five major chapters in this chapter of introduction. The need, scope, importance, limitations and the specific objectives of the study have been introduced.

The second chapter comprises the relevant literature reviewed the researcher, followed by the third chapter methodology used by the researcher in carrying out the present study. The findings of study along with discussion there have been presented in the fifth chapter. Finally the six and seventh chapter contains summary and implication of the investigation, followed by literature cited and appendix.

CHAPTER II

REVIEW OF LITERATURE

The review of literature is an essential aspect which helps the researcher to get acquaintance with the subject matter and channelized his efforts in desirable direction. As research is a continuous process, for any scientific investigation, previous findings provide basis to the research. The review of literature is one of the important aspects in research process. It helps the researcher to keep his work going in right and appropriate direction. Keeping in the objectives of the study, an attempt was made to review the literature which had meaningful relation to the study and are presented as under in sequence. Similarly, the conceptual model developed has also been delineated, as below

Keeping this in view, an attempt has been made to review the researcher and the same have been presented in the following sequence.

2.1 Reviews related to independent variables.

2.2 Reviews related to intervening Variables.

2.3 Reviews related to dependent variables.

2.4 Review related to constraints faced by farmers.

2.5 Conceptual model of the study.

2.1 Reviews related to independent variables, personal, socio-economic, communicational and psychological characteristics of respondents of Pradhan Mantri Fasal Bima Yojana

2.1.1 Age

Joseph and Easwaran (2006) in their study reported that majority of the respondents were aged between 40 to 60 years, followed by 30.77 per cent felling under below 40 years, and 15.38 per cent were above of 60 years. The mean age of members was found to be of 48 years.

Kotwal (2009) carried out study on knowledge, attitude and loan repayment behaviour of borrowers in Kisan Credit Card Scheme in

Akola district and reported that, 43.00 per cent borrowers of Kisan Credit Card Scheme were belonged to middle age group 36 to 50 years.

Suresh *et al.* (2010) worked on analysis of farmer's perception and awareness towards crop insurance as a tool for risk management in Tamil Nadu and observed that, among the 600 sample farmers, more than 70.00 per cent were in the age group of above 40 years, one third (30.00%) of respondents were at the age of more than 60 years.

Babita Kumar *et al.* (2012) indicated that more than one third 34.00 per cent of the respondents were in the age group of 28 to 37 year, 24.00 per cent were in the age group of 18 to 27 years and 22.00 per cent were in the age group of 38 to 47 years, 12.00 per cent were in the age group of 48 to 57 years and 08.00 per cent had in the age group of above 58 years.

Singh *et al.* (2014) reported that most (46.67%) of the respondents were middle aged ranging from 31 to 45 year age group.

Samota (2015) found that majority of the ILFs i.e. 64 (42.7 per cent) of total belonged to the middle aged group of 36 to 50 years. The respondents in the old and young aged group were found to be 57 (38.0 per cent) and 29 (19.33 per cent) respectively. It means that total 150 ILFs, 121 (80.67 per cent) belonged to young and old aged group respectively.

Gowda *et al.* (2015) found that 46.99 per cent of the members were from middle age group followed by 36.01 per cent young age group and 17.00 per cent of the members were from old age category, respectively.

Nayak (2016) reported that the majority 60.00 per cent of the farmers were between the age group of 30 to 40 years, while 14.00 per cent of the farmers were between the age group of 21 to 30 years and a very few 06.00 per cent of the farmers were from the age group of upto 21 years, and the 20.00 per cent of the farmers were from the age group of above 40 years.

Dhande (2017) observed that, majority 69.17 per cent of the beneficiaries belonged to middle age category followed by young age 17.50 per cent and old age 13.33 per cent categories respectively.

Ghanghas (2018) observed that, majority of the farmers belonged to young age category i.e. 45.00 per cent followed by middle age group 31.67 per cent and old age group 23.33 per cent only.

Sona and Muniraju (2018) observed that average age of the farmers were in the age group of around 50 years.

Verma *et al. (2018)* observed that that majority 60.00 per cent of the respondents were from the middle age group followed by 20.83 per cent and 19.17 per cent in the young and old group, respectively.

2.1.2 Education

Kotwal (2009) carried out study on knowledge, attitude and loan repayment behaviour of borrowers in Kisan Credit Card Scheme in Akola district and found that, nearly 50.00 per cent of borrowers of Kisan Credit Scheme were educated up to high school level.

Goudappa *et al.* (2012) studied on farmers perception and awareness about crop insurance in Karnataka and found that, the near to half (44.00 %) of respondents were illiterate and 25.00 per cent were education up to primary level, about 16.00 per cent respondents were educated up to secondary school level and 06.00 per cent respondents educated up to college and above.

Kale and Kadam (2012) the studied on knowledge of farmer about national agricultural insurance scheme in Parbhani district of Marathwada region of Maharashtra State and revealed that, the more than half (55.83%) of respondents were educated up to secondary school, followed by 15.83 per cent respondents were educated up to primary school. About 14.17 per cent respondents were educated up to graduate level, while 10.00 per cent respondents were educated up to high school level, 03.34 per cent of them were illiterate and very meagre (00.83%) respondents can only read and write.

Ramakrishnan *et al.* (2013) observed maximum (67.00%) respondents had their school education, while 16.00 per cent of respondents had their college education and 17.00 per cent of respondents were illiterate.

Ghazanfar *et al.* (2014) conducted study on an analysis of the farmers' community perception and awareness about crop insurance as a risk coping strategy a case study of Pakistan and found that, majority (60.80 %) of respondents had primary education, followed by 26.70 per cent of them had education up to middle level, whereas 09.17 per cent respondents had education up to higher education level, 03.33 per cent of respondents were educated above higher education level.

Gowda *et al.* (2015) observed that 28.31 per cent of the members had high school education followed by college education 17.75 per cent and primary school 17.08 per cent and illiterates were noticed to the extent of 15.28 per cent, followed by graduate level education 14.60 per cent and Middle school 6.98 per cent.

Dhande (2017) observed that, more than one third 35.83 per cent of the beneficiaries belonged to secondary school category followed by primary school 34.17 per cent, only able to read and write 15.00 per cent, higher school 10.00 per cent, graduate 05.00 per cent and none of them were illiterate.

Duhan *et al.* (2018) found that out of the total 567 respondents, 509 were literate respondents and 58 were illiterate. The figures further indicate that, the maximum number of farmers were matric 35.00 per cent followed by below matric 29.70 per cent and senior secondary 19.40 per cent. The minimum numbers of farmers were post-graduate 4.30 per cent among the total farmers. The percentage of graduate farmers were 11.60 per cent.

Ghanghas (2018) observed that, Pertaining to educational qualification of respondents, 68.34 percent were possessing up to higher secondary education while, only 8.33 percent were graduates & above.

Verma *et al. (2018)* observed that, Majority 30.83 per cent of the respondents were illiterate followed by middle school 19.17 percent. 19.17 per cent were educated up to Primary school, 12.50 per cent were Literate(can read only), 10.83 per cent up to High School, 08.33percent were educated up to Intermediate and 04.17 per cent respondents were graduate and above respectively.

2.1.3 Land Holding

Charan (2005) in his study on profile of Sujala watershed project beneficiary farmers found that majority (37.33%) had landholding up to 5 acres and 34.67 per cent of the respondents had landholding more than 10 acres.

Dolli (2006) in his study on sustainability of natural resources management in watershed development project revealed that majority of respondent's possessed large sized landholding (7.85 acres).

Bharad (2007) found that 60.50 per cent of the mango growers had a medium size of land holding. Remaining 31.00 percent and 8.50 per cent had small and big size of land holding, respectively.

Shanthamani (2007) reported that 38.00 per cent of the beneficiaries belonged to medium farmers' category, followed by small farmers (31.30%), large farmers (20.70%) and marginal farmers (10.00%).

Khalache and Gaikwad (2011) revealed that relatively higher percentage of beneficiaries (54.00%) possessed marginal level of land holding. About 46.00 per cent of the beneficiaries possessed small level of landholding.

Bihari *et al.* (2012) reported that 58.00 per cent of tribal women had small size (<1.00 acre) of landholding followed by 31.33 per cent who had medium size land (1.00 to 2.50 acre) and 10.67 per cent with large size land holding (>2.50 acre).

Goudappa *et al.* (2012) worked on farmers' perception and awareness about crop insurance in Karnataka and found that, the 03.44 per cent of respondents had rained land holding, 01.28 per cent of

respondents had irrigated land holding and no respondents had fallow land holding.

Falola *et al.* (2013) studied on willingness to take agricultural insurance by cocoa farmers in Nigeria and revealed that, majority (94.17%) of respondents were 01.00 to 10.00 ha. land holding, followed by 03.33 per cent of respondents having 11.00 to 20.00 ha. of land holding and remaining 02.50 per cent of respondents having 20.00 ha. and above of land holding.

Dhande (2017) observed that in more than half 56.67 per cent of the cases the beneficiaries found in small land holding, followed by those with semi medium 40.83 per cent, medium category 02.50 per cent and no one was found in big category of land holding.

Ghanghas (2018) observed that, land holding of farmers, 65.00 percent of farmers belonged to small to medium farmers' category and only 25.00 percent were large farmers.

Verma *et al. (2018)* observed that More than 58.33 per cent respondents were Marginal farmer having (less than 1.00 ha.) of land holding, followed by 29.17 per cent 12.50 per cent of respondents having small and big size of land holding, respectively.

2.1.4 Occupation

Katkar (2009) observed that, majority of the respondents beneficiaries 54.67 per cent had only agriculture as occupation, followed by agriculture + allied field or business or service.

Jhajharia *et al.* (2013) indicated that all the respondents were involved in agriculture, but may be due to increasing domestic requirements and low profitability of agriculture enterprise, the respondents were also practicing other occupations which were suitable and available in their reach. One third of the respondents were engaged in agriculture along with animal husbandry. About 15.00 per cent farmers with small land holding also earned by working in other's fields as labourer. In the study area, only 07.50 per cent respondents were engaged in service whereas, 05.84 per cent respondents were also doing some businesses for earning.

Kemparaju and Khan (2015) concluded that majority (31.30%) of the person were engaged in agriculture. Followed by non-agricultural labours (11.73%) and remaining were employed in various activities like agricultural labour, animal husbandry, small business and business. It was clearly stated in the collected information that agriculture was main stay of significant portion of the population as agriculture was a dominant sector in the study area.

Salunkhe (2013) found that majority of the respondent belonged farming as their main occupation.

Soni and Trivedi (2013) worked on Crop Insurance: an empirical study on awareness and perception in Anand district og Gujarat and revealed that all farmers were involved in farming 30.00 per cent farmers made horizontal occupation expansion in the farm of cattle rearing and 05.00 percent farmers diversified to other activity such as trading of goods

Soni *et al*. (2014) reported that nearly half (45.71%) of the subscribers had farming alone as main source of livelihood.

Dhodia *et al.* (2014) found that farming was prime occupation (45.00%) for the farmers in study area. So far, subsidiary occupation is concerned, 48.00 per cent and 07.00 per cent of the respondent were engaged in farming along with animal husbandry & farming, animal husbandry and services, respectively. During field survey, it was observed that out of every two families, at least one family engaged in farming along with labour work as a supplementary income source.

Ghoslya (2016) reveled that maximum number of respondents i.e. 60.83 per cent were engaged in agriculture for earning their income, while 22.50 per cent of the total respondents were working as labour and 16.67 per cent of the respondents were engaged in business and service.

Ghanghas (2018) observed that, majority (86.67%) of farmers had agriculture as their main occupation followed by agriculture plus allied occupation (13.33%).

2.1.5 Annual income

Hari and Kumawat (2006) reported that small farmers who obtained assistance under SGSY for buffalo rearing could be able to increase their annual income by Rs. 15,310 over and above Rs. 14,170 earned by the non-assisted families. In per cent terms, it was about 8.00 per cent higher than that of non-assisted families. The study also revealed that the buffalo rearing activity helped to increase employment by 92 man days (52.79 %) for small farmers and 72 man days (46.15 %) for marginal farmers.

Singh and Prakash (2010) in their study on socio-economic impact of watershed management project in Manipur revealed that project could marginally increase the income from 77.50 per cent to 78.46 per cent and employment opportunity for the house holders also increased in watershed area

Upadhyay and Solanki (2010) revealed that a majority of respondents (38.00 %) had monthly income ranging from Rs. 1101 to 1400. After becoming member of dairy cooperative, only 22.00 per cent respondents had the annual income in the range of Rs. 1101 to 1400. Majority i.e. 40.00 per cent respondents had monthly income in the range of Rs. 1401-1700 from sale of milk. There was an increase in income level of members after obtaining co-operative membership. Only 10.00 per cent of the respondents, who obtain membership, had monthly income ranging from Rs. 1701-2000 whereas, before obtaining co-operative membership, none of the respondent had monthly income in the range of Rs. 1701-2000.

Tejankar (2011) carried out study on knowledge and attitude of farmers towards national crop insurance scheme in Nagpur district and noticed that, majority 60.00 per cent of respondents had low annual income, followed by 35.00 per cent of respondents were having medium annual income and 05.00 per cent of respondents were having high annual income.

Babita *et al.* (2012) observed that less than half 46.00 per cent of the farmers had income less than 5 lakhs, 34.00 per cent had

between 5 to 10 lakhs while 16.00 per cent and 04.00 per cent had between 10 to15 and 15to 20 lakhs, respectively It means 80.00 per cent of the farmers have income less than 10 lakhs.

Ahire *et al.* (2015) found that 55.63 per cent of the respondents had medium level of annual income i.e. Rs. 27,435/- to 1, 31,075/- followed by 24.37 per cent respondents had annual income above Rs.1, 31,075/-. However only 02.00 per cent respondents were having annual income up to Rs. 27,434/-.

Kamble *et al.* (2015) reported that 83.34 per cent of the participant and 50.00 per cent non-participant farmers belong to medium annual income category. Among Participant farmers 10.00 per cent had low and 6.66 per cent had high level of annual income. Whereas, 46.66 per cent and 03.34 per cent of non-participant farmers belongs to low and high annual income category, respectively.

Boruah *et al.* (2015) revealed that higher percentage (51.67%) of the respondents had income ranging between Rs. 25001 to Rs.50000.

Ghoslya (2016) reveled that majority i.e. 58.33 per cent of the respondents had annual income from Rs. 01.00 to 02.50 lac per annum from all sources,

Dhande (2017) observed that, more than three fifth 66.67 per cent of beneficiaries had medium annual income (Rs 2,50,000/- to 3,50,000/-) followed by high 17.50 per cent and low 15.83 per cent had annual income respectively.

Verma *et al.* (2018)) Majority 50.00 per cent of respondents had low level of annual income, followed by 37.50 per cent and 12.50 per cent of respondents having medium and high level of annual income respectively.

2.1.6 Farming experience

Adewumi *et al.* (2007) conducted study on economic analysis of farming household's health on crop output in Kwara State, Nigeria and concluded that, about 10.00 per cent of the respondents have less than 10

years farming experience and remaining 90.00 per cent of the respondents have more than 10 years of farming experience.

Dhobale (2010) worked on adoption behavior of farmers about national crop insurance scheme in Buldhana district and found that, more than half (53.00%) of respondents had 6 to 10 years of farming experience, followed by 36.00 per cent of respondents had above 10 years of farming experience and remaining 11.00 per cent of respondents had up to 5 years of farming experience.

Stephen (2012) studied on assessment of the levels of awareness and use of agricultural insurance scheme among the rural farmers in Kogi State, Nigeria and revealed that, about 43.00 per cent of respondents had been in farming business for less than 10 years, about 30.00 per cent other had been in farming business for the past 11 to 20 years and the remaining 27.00 per cent had farming experience of more than 20 years.

Karthik and Ramalingam (2013) conducted study on farmers awareness about crop insurance scheme: an analytical study in Tamil Nadu State and found that, more than half (66.07%) and (56.08%) of loanee and non loanee respondents had 5 to 16 years of farming experience, respectively followed by 25.08 per cent and 32.01 per cent of loanee and non loanee respondents had farming experience had more than 16 years respectively 11.01 per cent and 07.05 per cent of non loanee and loanee respondents had farming experience had less than 5 years.

Mankar *et al.* (2013) from his analysis on impact of national horticulture mission on its beneficiaries and observed that, the 57.50 per cent of the respondents had 11 to 20 years of farming experience, followed by 26.67 per cent had up to 10 years farming experience and 15.83 per cent of respondents had above 20 years farming experience.

Mahadevaswamy (2014) worked on positive perception of weather index based insurance scheme in Karnataka and found that, about 23.00 per cent had 11 to 20 years farming experience, 19.00 per cent of respondents had above 40 years farming experience, 17.00 per cent of

respondents had 21 to 30 years farming experience, 16.00 per cent of respondents had below 10 years farming experience and 16.00 per cent of respondents had 31 to 40 years farming experience.

Dhande (2017), observed that, more than two third 68.33 per cent of the beneficiaries had medium farming experience followed by low 15.84 per cent and high farming experience 15.83 per cent.

Ghanghas (2018) observed that, 43.33 per cent of respondents had farming experience up to 15 years followed by 16 to 30 years of farming experience (25.00%) and more than 30 years' experience by 31.67 per cent.

2.1.7 Cropping Pattern

Bhamare (2008) observed that, more than three fifth 61.00 per cent of the respondents were growing kharif, summer and annual or perennial crops, while 17.50 per cent respondents found cultivating kharif and summer crops in year and 11.00 percent respondents were growing kharif as well as annual or perennial crops per year.

Mihale *et al.* (2009) in their study observed that cereal crops were the most grown crops by farmers 61.90 per cent followed by legumes 13.30 per cent.

Ghosh and Ashwani Kumar (2010) noted that annual average food grain production is about 7.2 million tons out of which more than 90 per cent accounts for rice production. Paddy is principal food crop of the Orissa State. The crop distribution as per cent gross cropped areas are paddy 76.4 per cent, pulses 12.2 per cent, oilseeds 5.2 per cent, cash crops like sugarcane, potato, chilly 2.0 per cent and others 4.2 per cent.

Hole (2014) observed that 70.00 per cent of respondents were farming seasonal cropping pattern followed by 15.00 per cent respondents with bi seasonal cropping pattern and 06.00 per cent of the respondents were following bi annual cropping, 05.00 per cent respondents were found in perennial cropping, remaining 04.00 per cent with annual cropping pattern.

Dhande (2017) observed that majority 93.33 per cent of the beneficiaries belonged to ‘fair’ cropping pattern category, while 05.00 per cent of the beneficiaries belonged to ‘good’ cropping pattern category and 01.67 per cent beneficiaries belonged to ‘poor’ cropping pattern category.

2.1.8 Source of information

Lal (2000) studied on farmer’s awareness about crop insurance and observed that, the majority (85.50%) of the respondents got information about crop insurance from insurance agent, while other 48.63 per cent, 48.88 per cents and 40.63 per cents got information from other common source such as radio, newspaper, gram pradhan, respectively.

Pulliken (2001) in their research knowledge and attitude of farmers towards national crop insurance scheme in Akola district and observed that, the majority (74.67%) of the respondents had medium source of information, while other 17.33 per cents respondents had low source of information and remaining 08.00 per cent of respondents had high source of information.

Wagh (2006) revealed that more than half (54.25%) of the respondents were used low number of information sources. While 25.25 per cent of them were used medium number of information sources. However, 13.25 per cent of them had high number of information sources. Only 07.25 of the respondents were not used any information sources.

Sasane *et al.*(2008) studied knowledge and adoption of sugarcane water management practices recommended by M.P.K.V. Rahuri in Maharashtra and revealed that, majority (74.00%) of sugarcane grower were always obtaining information through agriculture assistance of agriculture university to follow recommended practice than other source of information.

Suresh Kumar *et al.* (2010) reported that government department plays a leading role in source of information to the farmers. Various sources like Government department (72.02 %), Agricultural universities and research institutes (08.93 %), NGOs (02.30 %), neighbors and fellow farmers (12.76 %) and so on disseminate information to the

farmers. Mass media instruments like newspaper (39.45 %), televisions (19.38 %), Banks (14.53 %), fellow farmers (09.69 %), NGOs (07.27 %), Radio (09.69 %) play important roles in disseminating information about various insurance products or schemes implemented by public sector and private insurance companies.

Gowda *et al.* (2015) revealed that with regard to the source of information on agriculture 21.74 per cent of the members consulted progressive farmers followed by relatives 20.73 per cent, friends 20.70 per cent, village leaders 18.61 per cent, and neighbours 18.22 per cent.

Pandaraiah and Sashindar (2015) studied on Crop Insurance: Farmers perception and awareness a case study in kuram pally village of kanagal mandal of Nalgonda district, Telangana state and observed that, farmers acquire information various sources including government department 55.00 per cent, neighbors and follow farmers 26.00 per cent, Agriculture university and research institute 11.00 per cent, NGOs 06.00 per cent and remaining is the portion of website, newspapers and television.

Nayak (2016) depicted that 34.00 per cent of the farmers get information about crop insurance schemes from Banks, 26.00 per cent of the farmers from Newspaper and other electronic media, 22.00 per cent of the farmers from the government departments and rest (18.00%) of the farmers from friends and relatives.

Ghanghas (2018) observed that, 72.00 per cent of respondent farmers utilized personal localite information sources for knowledge of farming followed by extension functionaries (16.67 %) and scientists 11.66 per cent only.

Sona and Muniraju (2018) findings that farmers acquired information about crop insurance programmes from various sources such as radio (24.00%), television (18.00%), kisan sabha (18.00%), agriculture department (14.00%) and remaining twenty six per cent from newspaper(04.00%), mobile (10.00%) and village sabha (12.00%).

Shanmugapriya and Raveena (2018) concluded that respondents acquired information through various sources such as newspaper (30.30%), radio (54.10%), television (08.60%), fellow farmers/relatives (06.50%) and bank/financial institutions (00.50%).

2.1.9 Innovativeness

Gawande (2006) observed that, majority of the respondents 61.33 per cent had medium level of innovativeness, whereas 22.00 per cent of respondents had low level of innovativeness and 16.67 per cent respondents grouped into high category of innovativeness.

Yadav (2008) revealed that the majority of the respondent (60.00%) had medium level of innovativeness.

Katkar (2009) observed that, majority of the respondents (89.19%) had medium level of innovativeness, whereas 68.42 per cent respondents had low level of innovativeness.

Sharma (2009) concluded that maximum percentage of respondent were in medium category of innovativeness.

Gurjar (2014) reported that out of total respondents, 53.35 per cent had medium innovativeness, followed by low (26.67%) and high (20.00%) high level of innovativeness.

Sihare (2015) reported that out of total organic farmers 70.00 per cent were having medium level of innovativeness followed by 30.00 per cent had high innovativeness, whereas no one was in the category of low innovativeness.

2.1.10 Risk orientation

Subramanyam (2002) conducted a study on impact of agricultural market yard committee level training programmes in Andhra Pradesh which revealed that, 75.00 per cent of the trained farmers had medium risk preference showing positive impact of technologies followed by high (13.34 per cent) and low (11.66 per cent) levels of risk preference.

Surve (2002) carried out study on attitude of farmers towards national agriculture insurance in Parbhani and Hingoli district of

Maharashtra State and found that, less than half (43.34%)of the respondents found in medium risk preference category, followed by 34.16 per cent and 22.50 per cent of the respondents were from high and low risk preference category, respectively.

Vedamurthy (2002) in their study on Arecanut growers of Shimoga district in Karnataka reported that, 45.33 per cent of areca growers belonged to medium risk category and they adopt related technologies quicker than low and high category.

Venkataramalu (2003) from their study on the knowledge level adoption and marketing behaviour of chilli growers in Guntur district of Andhra Pradesh reported that, majority (73. 33%) of the farmers had medium level of risk bearing capacity.

Kotwal (2009) the research on knowledge, attitude and loan repayment behaviour of borrower in kisan credit card scheme in Akola district of Maharashtra State and reported that, the risk performance in more than half (53.00%) of the borrowers of kisan credit card scheme was observed to be of medium level.

Mallikarjun *et al.* (2005) carried the study on entrepreneurial characteristics of organic vegetable growers and observed that, the 'high' risk orientation was noticed among 45.00 per cent of respondents and they adopt new innovations more quickly than respondents had medium 27.86 per cent and low 27.14 per cent risk orientation.

Kale and Kadam (2012) the studied on knowledge of farmer about national agricultural insurance scheme in Parbhani district of Marathwada region of Maharashtra State and revealed that, the majority 64.16 per cent of the respondents found in medium risk preference category, followed by 25 per cent and 10.84 per cent of the respondent were from high and low risk preference category, respectively.

Thorat (2013) found that majority 70.00 per cent of the sunflower Respondents in the medium risk orientation, while 13.00 per cent and 17.00 per cent were low and high risk orientation categories, respectively.

Thakare (2013) observed that majority of floriculturists (63.33%) had medium level of risk orientation followed by (24.17%) and (12.50%) respondents high and low level of risk orientation.

Ambavane (2014) delineate that majority 67.50 per cent of the respondents were in the medium risk orientation category while, 20.83 per cent and 11.67 per cent were low and high risk orientation categories, respectively.

Deshmukh (2014) indicated that majority 68.33 per cent of the farmers were in the medium risk preference category, while 15.83 per cent and 15.83 per cent farmers were low and high risk preference categories, respectively.

Dhande (2017), observed that, majority 72.50 per cent of beneficiaries had medium level of risk orientation followed by high 18.33 per cent and low 09.17 per cent levels of risk orientation.

2.2 Reviews related to intervening Variables.

2.2.1 Knowledge

Bheemappa (2006) in a study on knowledge level of Gram Panchayat members found that majority (65.83%) of the members had medium level of knowledge, whereas, 18.33 per cent and 15.84 per cent of them had low and high level of knowledge regarding the details of SGRY programme.

Satya Prakash and Dipak De (2008) in their study on the level of knowledge of beneficiaries about bee- keeping revealed that majority of the beneficiaries (42.22%) had medium knowledge about bee-keeping. The study indicated that the innovations in technology dissemination component of National Agriculture Technology Project, a World Bank assisted project have established its existence and left an imprint in the study area.

Singh *et al*. (2010) found that the knowledge level of the trainees was increased in all area of contents under study. The overall increase in knowledge over pre-training knowledge level was 69.55 per cent.

George and Hedge (2011) found that the level of knowledge of farmers increased significantly from 35.70 per cent before they attended field school to 82.20 per cent after the farmer attended field school. This showed that there was good improvement level of farmers' knowledge after attending field school.

Arya *et al.* (2012) reported that sizable number of change agent (42.00%) possessed medium knowledge level followed by 30.40 per cent who acquired low level of knowledge and remaining 27.60 per cent respondents obtained high knowledge level.

Roy and Bhagat (2012) showed that majority (70.00%) of the respondents belonged to medium knowledge level category. About 20.00 per cent belonged to high knowledge level and 10.00 per cent of the respondents belonged to low knowledge level category.

Joseph *et al.* (2014) revealed that majority (85.5 %) of respondents had poor knowledge and 14.5 per cent had average knowledge regarding BPL schemes.

Kulshrestha *et al.* (2015) showed that knowledge level of majority of farmers about soil conservation practices was low as compared to the knowledge about rest of the selected practices.

Mohapatra *et al.* (2016) reported that majority of the respondents have low level of knowledge 65.32 per cent about the weather based insurance scheme whereas 19.35 per cent of respondents had high level of knowledge. Only 15.32 per cent of the respondents had medium level of knowledge about the weather insurance scheme.

Kumar *et al.* (2017) was worked conducted on Knowledge and adoption extent of farmers about crop insurance in Etawan district found that 65.79 per cent farmers have knowledge about crop insurance.

2.2.2 Attitude

Basak and Pandit (2011) reported that more than half (57.14%) of the respondents had favorable attitude followed by highly favorable (40.48%) attitude towards the use of USG in rice cultivation. However, only a few (2.38%) of them had unfavorable attitude.

Gulkari *et al.* (2013) observed that, study revealed that less than half (46.66%) of the farmers had neutral attitude towards National Horticulture Mission.

Mankar *et al.* (2013) observed that nearly one half (49.17%) of the National Horticulture Mission farmers had moderately favorable attitude towards National Horticulture Mission.

Daninga and Zhang Qiol (2014) found that farmers' attitudes toward the program were negative. Farmers' attitudes and perception should be incorporated in developing effective drought insurance in Tanzania.

Singh *et al.* (2014) found that more than half of the farmers (56.34%) had favorable and most favorable attitude towards improved technology of wheat cultivation, 20.33 per cent small farmers had unfavorable and most unfavorable attitude, while 23.33 per cent farmers showed neutral attitude towards improved technology of wheat cultivation. Thus, from the foregoing explanation, it may be concluded that majority of small farmers (79.67%) had favorable attitude towards improved technology of wheat cultivation.

Sivaraj *et al.* (2016) conducted research on attitude about crop insurance in paddy farmers of Erode and Tiruchirappalli district of Tamil Nadu. More than one half 63.00 per cent of them had moderate to less favourable attitude level of farmers for ensuring better penetration of crop insurance in both district.

Dhande (2017), observed that majority 74.16 per cent of the respondents were found in moderate of attitude and 18.33 per cent of them were had less favorable of attitude. Whereas 07.50 per cent of them were had highly favorable of attitude.

2.3 Review related to Dependent Variable

2.3.1 Awareness

Uvanesarvan and moharapriya (2014) conducted worked on farmer's perception and awareness about crop insurance in Tamil Nadu and revealed that, about 45.00 per cent of respondents are aware about

crop insurance scheme and 55.00 per cent respondents are not aware about crop insurance scheme.

Chavan (2015) conducted worked on farmers awareness and perception toward crop insurance as a risk management tool observed that majority of the respondents i.e. 68.34 per cent had medium level of awareness about weather based crop insurance scheme, nearly 22.50 percent of respondents had high level of awareness about weather based crop insurance scheme, where 09.16 per cent of respondents had low level of awareness about weather based crop insurance scheme.

Pandaraiah and Shasidar (2015) found that the 35% of the farmers are aware of risk mitigation measures of government. This implies that there is a need to disseminate information about insurance scheme across the target group particularly small farmer and middle farmers.

Kumbalep and Devaraju (2018) found that only 33.00 percent of farmers were aware of crop insurance.

Ghanghas (2018) observed that more than two third of farmers were aware on general information as well as premium related information followed by seasonality discipline (40.23%) and risks coverage 34.43 percent only. A vast majority (93.33%) of farmers adopted the compulsory proposal for loanee farmers while 06.67 per cent adopted it voluntarily.

Sona and Muniraju (2018) founded that 13% of respondents are fully aware of crop insurance and equal percent were not aware of the NAIS scheme.

Shanmugapriya and Raveena (2018) founded that only nearly twenty six per cent (25.9%) of the farmers were aware but not insured and remaining 41.20 per cent of the respondents were not aware in the study area.

2.3.2 Interest

Sinha and Singh (2000) revealed that, there was more interest of farm women in ploughing, which is relatively less skilled operation. The involvement of farm women in spading is 67.00 percent, the

work of beating cold was mainly done by farm women. While, the operation of collecting weeds was almost entirely done by farm women 85.00 percent**.**

2.3.3 Adoption

Kad (2017) observed that majority of respondent i.e. 69.16 per cent belong to medium level of adoption, followed by 30.83 per cent had the low level of adoption about bio fertilizer. There is no respondents in the high level of adoption.

Kumar *et al.* (2017) was worked conducted on Knowledge and adoption extent of farmers about crop insurance in Etawan district found that 60.73 per cent farmers adopted crop insurance scheme.

Kumar and rani (2018) observed that that majority of the farmers (45.50%) had medium level of adoption followed by low (32.20 %) and high level (22.30 %) adoption.

Bhise *et al.* (2018) observed that majority (64.50 per cent) of the respondents were found in medium category of adoption, while 19.00 per cent and 16.50 per cent of the respondents were in low and high category of adoption, respectively.

Naveen and kumar (2018) that nearly 70 per cent of the respondents belonged to medium adoption category, whereas 26 per cent and 04.00 per cent of FFS respondents belonged to high and low adoption categories respectively.

Verma *et al. (*2018) observed that Majority 63.33 per cent of respondents had medium level of adoption about cauliflower production practices. While 20.84 per cent and 15.83 per cent respondents had low and high level of adoption of cauliflower production practices respectively.

2.4. Constraints in Adoption of Pradhan Mantri Fasal Bima Yojana

Chand *et al.* (2009) conducted their study to identify the constraints faced by the watershed functionaries while implementing Integrated Wasteland Development Programmed (IWDP). The suggestions offered by the sample households and watershed functionaries were to

increase the contribution for individualized activities, fixing the responsibilities to maintain the common works, increasing the project period and increasing the seed money to SHGs to carry out the appropriate income generating activity and frequent visits of PIA after withdrawal of the project.

Fazelbeigi and Yavari (2010) found that the most significant drawbacks in insurance fund were lack of compliance with economic frameworks and business principles, issues in statistics system, lack of competition in service sector and lack of constant evaluation & monitoring. In addition, they found several threats faced by insurance fund such as improper structure of production entities, disintegrated lands, lack of production standards and poor living & operation systems.

Akter *et al.* (2012) concludes that low demand and low commercial viability of standalone weather index insurance was due to high cost and regulatory constraints and suggests group based non-traditional model to ensure low cost delivery with product innovation and good governance.

Mani (2012) observed that maximum of farmers who did not insure because of lack of awareness (56.00%), followed by lack of interest to insure (33.00%) and inability to pay premium (02.00%). Thus, lack of awareness and interest to insure constitute a large percentage (about 90.00%) of the population.

Singh *et al.* (2013) conducted a study in Ahmednagar district of Maharashtra, where the famous Anna Hazare's Ralegaon Siddhi was located. Among the suggestions given by respondents for better watershed management, the most important were: specific measures for human development including good and dedicated leadership, decision by consensus of all stakeholders, encouraging people to take own initiatives and not rely on government for everything, using community pressure for those who do not adhere to group decisions, empowering women with self-help groups and engaging youth in constructive activities. Among the economic and ecological measures, encouraging dairying to augment farm incomes, banning open grazing, tree felling, undertake massive tree

plantation and among the water conservation measures, forming water cooperatives, using water judiciously and arresting flow of water wherever possible were the major suggestions.

Khedkar and Dhakad (2014) indicated that most (75.83%) of the beneficiaries reported the problem of complicated process in getting credit followed by short duration of repayment of loan (73.33%),non-availability of water level in boring of well (70.83%), non-availability of good breed of animals (63.33%), delay in getting loan (61.67%), problems in selling milk (58.33%), partiality between illiterate and educated member to include in the programme (56.67%), high cost of feeding material (55.00%),non-availability of information regarding to SGSY programme in time (53.33%), problems faced in obtaining record from Patwari (51.67%), non-issuance of certificate of under poverty line to proper persons by Panchayat (40.00%) and problems faced in filling the bank application form (38.33%).

Mensah *et al.* (2017) studied that the key constraints to the development of agricultural insurance for cashew crop farmers include lack of data; lack of agricultural insurance legislation; lack of knowledge on product development; lack of personnel with knowledge in agricultural insurance; as well as lack of knowledge on marketing channels among others.

Dhayal *et al.* (2018) found that the major constraints perceived by farmers were illiteracy among farmers, unavailability of surveyor at crop loss time and farmers were unable to manage premium amount at payment time and it was measured as most severe financial constraint encountered by majority of the insured farmers. In case of social constraint, it was found that family members do not believe in this scheme was the most severe constraint encountered by majority of the insured farmers.

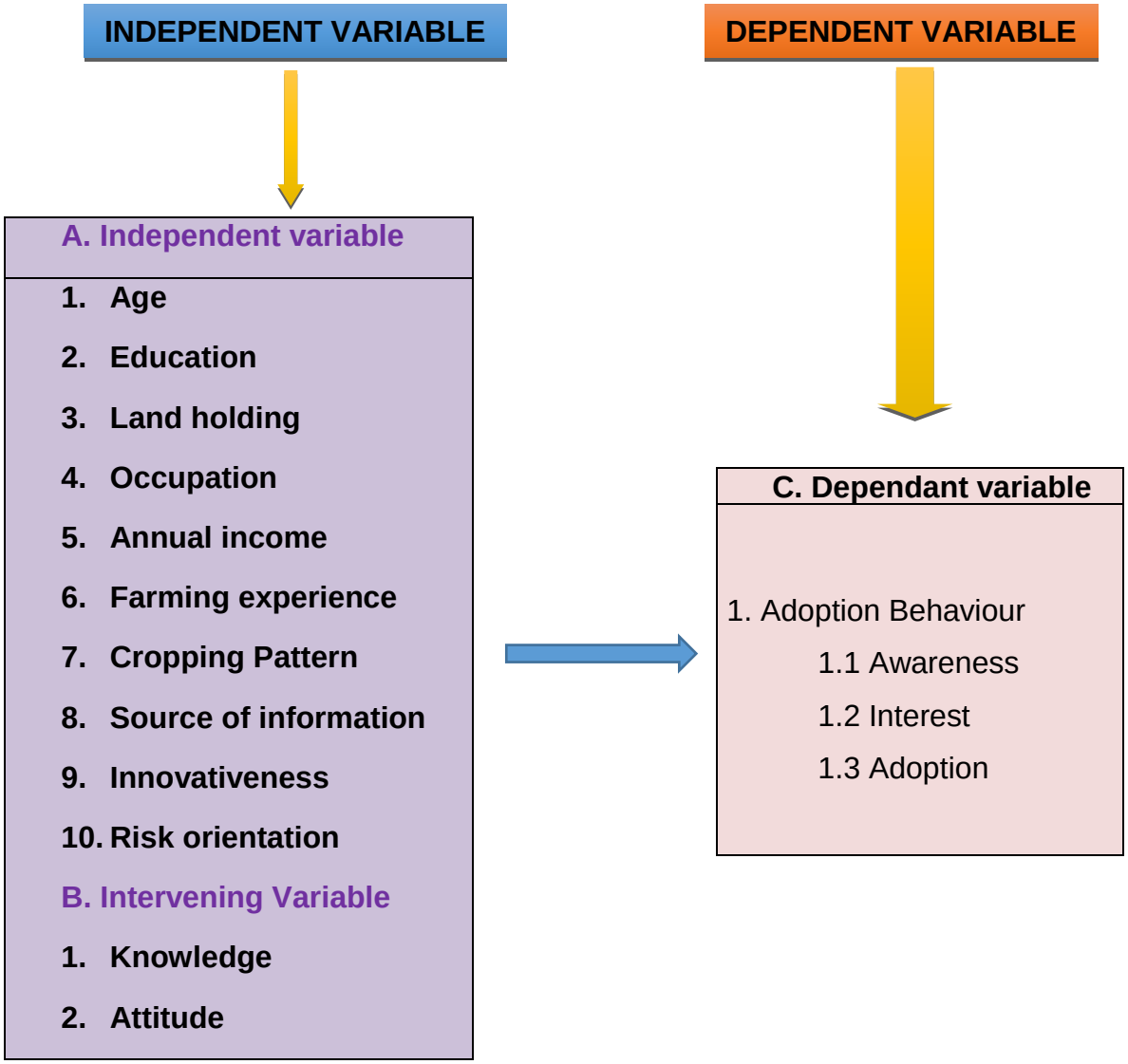

Fig. 1 Conceptual model

CHAPTER III

METHODOLOGY

Research methodology deals with the description of research method and procedures used in the present study. The researcher is expected to develop and use his own techniques to fulfil the demands of his research. For the present study detailed methodology was developed for studying various aspects in line of the specific objectives and has been explained in this chapter. The various aspects included in this chapter have been described with relevant details under following heads.

3.1 Research design

3.2 Sample and sampling plan

3.3 Tools for data collection

3.4 Preparation of interview schedule

3.5 Pre-testing of interview schedule

3.6 Collection of data

3.7 Compilation of data

3.8 Variables and their measurement

3.9 Statistical methods used

3.1 Research design

The present investigation was confined to Adoption Behaviour of Farmers about Pradhan Mantri Fasal Bima Yojana. Therefore, an exploratory design of social research was used for present study aims know the adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana.

3.2 Locale of the study

The present study was carried out in Washim district of Maharashtra State.

3.3 Sample and sampling plan

Sampling plan adopted for this research study was as follows:

Plate 1 Investigator interviewing with the farmer

Plate 2 Investigator interviewing with the farmer

3.3.1 Selection of taluka

Three talukas namely Washim, Risod and Malegaon of Washim district were purposively selected for the study as they were having high area of soybean crop under Pradhan Mantri Fasal Bima Yojana in Vidharbha region.

3.3.2 Selection of village

From Washim, Risod and Malegaon taluka, 4 villages (from each taluka) were selected purposively based on high area under the Pradhan Mantri Fasal Bima Yojana. Comprising total sample of 12 villages for the present study.

3.3.3 Selection of Famers

A list of Farmers who adopted Pradhan Mantri Fasal Bima Yojana on soybean crop from last 3 years. The list of respondents was obtained from Talathi office and various banks (viz Lead bank, Akola District Central Cooperative Bank, District Central Cooperative Bank and Different Nationalized Bank) of the village. 10 farmers were selected from each village by purposively sampling method those who was grow soybean crop ensured under Pradhan Mantri Fasal Bima Yojana.

From each village 10 farmers were selected randomly to comprise total 120 farmers for the study.

Table: 2 List of selected taluka and villages from Washim district

District	Taluka	Village	Famers
	Washim	Jumda	10
		Aadoli	10
		Sonkhas	10
		Tamsi	10
	Malegaon	Kinkheda	10
		Maslapen	10
		Tiwali	10
		Wasri	10
	Risod	Ashola	10
		Mop	10
		Agarwadi	10
		Bhar	10
Total	**3**	**12**	**120**

Plate 3 Investigator interviewing with the farmer

Plate 4 Investigator interviewing with the farmer

3.4 Tools for data collection

The basic instrument used for study was interview schedule. The data was collected by personal interview, so as to get valid and complete responses. Keeping the objective of the study in view an interview schedule was developed, and was personally administered.

3.5 Preparation of interview schedule

As per the objective of study, structural interview schedule was prepared. In the first part of interview schedule the personal, socio-economic, communication and psychological characteristics of the farmers were included. Second part consisting the information about depended variable adoption behaviour had sub components viz. awareness, interest and adoption of Pradhan Mantri Fasal Bima Yojana by the farmers. Simple, open end questions were included in the schedule for obtaining information about constraints faced by farmers in adoption of Pradhan Mantri Fasal Bima Yojana.

The schedule was initially developed in English version and then translated into local Marathi language.

3.6 Pre-testing of interview schedule

The interview schedule so developed was pre-tested for its accuracy, simplicity and practicability with a group of farmers in non-selected villages, considering the experience of pre-testing related questions were put together to have consistency in response. The language of few questions was modified for ease in understanding and eliciting accurate responses. Number of copies of interview schedule were then got cyclostyled and used for collection of data.

3.7 Collection of data

The data was collected in a face to face situation by contacting personally to the selected farmers. The farmers were contacted at their farms, homes as per their convenience. For easy and quick approach to farmers, the help of agricultural assistant was sought. Before actual seeking of information, farmers were introduced with the objective of

the study. The pre-tested interview schedule was then used for data collection.

3.8 Compilation of data

The information collected through interview was transferred from the interview schedule wherever necessary the information in qualitative form was converted into quantitative form and computation of score was done. The quantitative data were used to find out the nature of relationship between independent and dependent variables. The data were analysed through statistical tools.

3.9 Variables and their measurement

For the present study two sets of variables, namely, independent and dependent variables were selected. The independent variables included were personal, socio-economic, communicational and psychological characteristics. The dependent variable was Adoption behaviour. Constraints faced by farmer's adoption of Pradhan Mantri Fasal Bima Yojana were also studied. The details about the independent and dependent variables and their empirical measures are shown in Table.

Table 3. Variables and their measurements

Sl. No	Variables	Empirical measures
I	**Independent variables**	
1	Age	Chronological age of the farmers since birth in completed years was considered as the age and taken as a score.
2	Education	The number of standard passed by the Farmers in formal schooling was considered as his/her educational score.
3	Land holding	A numerical score of one was assigned for each hectare of land possessed by farmers.
4	Cropping Pattern	Use procedure followed by earlier researchers. Annual crop assign score for each one (Kharif for one, Rabi for One and Summer for One) Perennial crop assigning score four.

5	Occupation	Schedule was used
6	Annual income	The total income of farmer and his family members received in rupees from all the sources in a year was considered as score.
7	Farming experience	It was measured as number of years an individual has been farming. The individual farmers was asked to state the experience in cultivation and the same will be considered as the score.
8	Sources of information	Schedule was developed
9	Innovativeness	It was measured with the help of scale developed by Singh (1972)
10	Risk orientation	It was measured with the help of scale developed by Supe (1969)
11	Knowledge	Statement Developed by Teacher, Agencies and Bank. There was answer assigning Yes and No. Yes for one and No for zero
12	Attitude	Statement Developed by Teacher, Agencies and Bank. There was answer three quantum Agree, Undecided and Disagree. There was score for Agree-3, Undecied-2 and Disagree-1.
B	**Dependent variable**	
1	Adoption Behaviour	A teacher made adoption behaviour test was developed.

3.9.1 Measurement of Independent Variables

3.9.1.1 Age

It is conceptually defined as the chronological age of the farmer since birth in completed years was considered as the age and taken as score. The categorizations was done as young, middle and old on the basis of actual age of the farmer at the time of data collection.

Sl. No	Category	Score
1	Young	Up to 35 years
2	Middle	36 to 50 years
3	Old	Above 50 years

3.9.1.2 Education

It is operationally defined as formal schooling passed by an individual farmer. A numerical score of one was assigned to each formal schooling passed and categorization was done on the basis of educational qualification.

Sl. No.	Education status	Standard
1	Illiterate	No schooling
2	Primary	Up to 4^{th} std.
3	Middle school	5^{th} to 7^{th} std.
4	High school	8^{th} to 10^{th} std.
5	Higher secondary	11^{th} to 12^{th}
6	College	Above 12^{th}

3.9.1.3 Land holding

It is operationally defined as an area of land in hectares possessed by an individual farmers for cultivation of crops. The total number of hectares of land possessed by each farmer was considered as such as score for land holding of that farmers. The farmers were then categorized in to following categories as per Maharashtra government norms.

Sl. No.	Land holding	Land in ha.
1	Marginal	Up to 1.00 ha
2	Small	1.01 -2.00 ha
3	Semi-medium	2.01 -4.00 ha
4	Medium	4.01 -10.00 ha
5	Large	Above 10.00 ha.

3.9.1.4 Occupation

It is operationalized as the activities in which the farmer and his family are regularly engaged and get major income out of them.

Sl.No.	Occupation	Score
1	Agriculture + Labour	1
2	Agriculture (Farming)	2
3	Agriculture + Allied Occupation (Goat farming/Poultry /Apiculture /Sericulture)	3
4	Agriculture + Business (Professional / Non-professional)	4
5	Agriculture + Service (Job with monthly salary/pension)	5

3.9.1.5 Annual Income

It refers to the gross income in a year by an individual and his family members from all sources.

It is operationally defined as gross income in rupees derived from all sources in a year by farmer and his family members. Actual income was consider as score. The farmers was grouped into different categories by using equal Interval method.

Sl. No	Category
1	Upto Rs.50000/-
2	Rs.50001/- to Rs.100000
3	Rs.100001/- to Rs.150000
4	Rs.150001/- to Rs.200000
5	Above Rs.200000

3.9.1.6 Farming experience

It is operational terms it was taken as the experience of an individual farmer in number of year of cultivation of various crops.

On the basis of experience in cultivation of crops the farmers were classified into following categories of experience based on equal interval method.

Sl. No.	Category	Range of experience (year)
1	Low	Upto 10
2	Medium	11 to 20
3	High	Above 20

3.9.1.7 Cropping pattern

Cropping pattern was operationalized as the number of crop grown by individual farmers following mix cropping and crop rotation in seasonal, bi-seasonal, annual, biannual and perennial.

It refers to the yearly sequence and special arrangement of crops and followed on a given area by the farmer's. In other words, it referred to the crops grown by the farmers in kharif, Rabi and summer season, as well as, annual and perennial crops.

The method followed by earlier researcher was used for allotting score. One score was given for growing the crop in each of the three seasons, while four score was given for perennial crops grown by the farmers

Sl. No.	Cropping Pattern	Score
1	Kharif	1
2	Rabi	1
3	Summer	1
4	Bi seasonal	3
5	Perennial	4

3.9.1.8 Source of information

It is operationally defined as the information sources consulted by the farmers about Pradhan Mantri Fasal Bima Yojana.

Sources of information used by farmers to obtain information about eligibility criteria, covered crop, time of registration, documents required, type of risk covered, premium, loaning period, term and conditions was considered as institutional sources, bank, localized, mass media and insurance portal.

Total 20 Important sources were and categorized into always, sometimes, never. The Famers were asked to state their frequency to contact in their always, sometimes, and never with numerical score 2, 1, 0, respectively. The score of information sources were added together and on the basis of mean and standard deviation (X ± SD) the Famers were grouped into low, medium and high.

Sl. No.	Category	Score range
1	Low	Upto 13.42
2	Medium	13.43 to 20.03
3	High	Above 20.03
Mean= 16.72		**S.D.= 3.30**

3.9.1.9 Innovativeness

Rogers (1995), defined innovativeness as the degree to which an individual adopts the ideas earlier than other in the social system. It is operational defined as the degree to which farmer adopts the idea regarding to new crop insurance scheme.

Scale developed by Singh (1972) was used, to measure innovativeness. It consist of six statement. Statement 1, 4 and 5 are positive and statement 2, 3, 6 are negative. Positive statement was assigned score 3, 2 and 1 for response categories, viz. agree, undecided, disagree. Reverse was done for negative statement. The scores earned on all six statements of the scale was summed up and this sum total was indication of innovativeness score for that individual farmer. Further three categories of innovativeness were formed on the basis of mean and standard deviation.

Sl. No.	Category	Range
1	Low	Upto 10
2	Medium	11 to 15
3	High	Above 15
Mean= 12.45		**S.D.= 2.27**

3.9.1.10 Risk orientation

It is operationally defined as the degree to which Famers is oriented towards risk and has courage to face the problem and uncertainty in adoption of new agriculture development scheme. It was measured with the help of scale developed by Supe (1969) with slight modifications.

There were six statements, out of these, statement number 1, 2, 3, 4 and 6 were positive, while statement number 5 was negative. The response to each statement was rated on a three point's continuum as agree, undecided, and disagree against each statement. A score of 3, 2, and 1 was assigned to the above response categories in case of positive statements and the scoring pattern was reversed for negative statements. The risk preference score was the summated score overall the six items in the scale. The minimum and the maximum risk preference score that have been obtained by the individual farmer's ranges from 6 to 18.

Further three categories of innovativeness were formed on the basis of mean and standard deviation.

Sl. No.	Category	Range
1	Low	Upto 10
2	Medium	11 to 15
3	High	Above 15
Mean= 12.39		**S.D.=2.27**

3.9.1.11 Knowledge

Rogers (1989) has defined awareness knowledge as a slope of an individual mainly to seek information that is embodied in technological innovation and information that reduce uncertainly about cause effect

relationship that are involved in the innovation capacity to solve the problem.

Knowledge in the present case is operationally defined as amount of information possessed by the farmers.

A Teacher made knowledge test was developed and was used for measuring the knowledge about crop covered, time of registration, documents required, type of risk covered, premium, loaning period, implemented agencies, eligibility criteria, claim, procedure was included in knowledge test. The question related to the above items was framed to measure the knowledge of individual farmer. The responses were elicited on two point continuum i.e. Yes and No by assigning a score of one and zero respectively. Finally score for all items of knowledge scale for individual farmer was summed up to obtain total score.

Knowledge score for each recommended technology was converted in to knowledge index by using following formula.

$$\text{Knowledge Index} = \frac{\text{Actual obtained Knowledge score}}{\text{Maximum obtainable Knowledge score}} \times 100$$

Finally, the farmers on the basis of their average knowledge index was categorized equal interval method in three categories.

Sl. No.	Knowledge level	Index range
1.	Low	Upto 33.33
2.	Medium	33.34 to 66.66
3.	High	Above 66.66

3.9.1.12 Attitude

Allopart (1935) defined attitude as a mental state of readiness, organization through experience, exerting a directive and dynamics influence upon individuals response to all objects and situations with which it is related.

To know the attitude of farmers towards Pradhan Mantri Fasal Bima Yojana, statement was developed with help of bank officer, Insurance

agents. Schedule having (positive statements and negative statement) were related to Pradhan mantra Fasal Bima Yojana. The response of was recorded on three continuum as ‘agree’, undecided’, and disagree’ the positive statements was assign 3 score for agree, 2 for undecided and 1 for disagree and the vice versa in case of negative statement. Considering the total score, farmers were categorized on the basis of Mean ± Standard Deviation in three categories.

Sl. No.	Category	Index range
1.	Less favourable	Upto 30.87
2.	Moderately favourable	30.88 to 36.51
3.	Highly favourable	Above 36.51
Mean= 33.70		**S.D.= 2.82**

3.9.2 DEPENDENT VARIABLE

3.9.2 Adoption behaviour

The adoption behaviour was only one variable selected as dependent variable for the study.

Adoption of any innovation or programme does not occur at a time. It is gradual process; which can be take place in 3 stage i.e. awareness, interest and adoption.

In the context of present study, adoption behaviour was defined as the process in which individual farmers passing from awareness, interested and adoption of Pradhan Mantri Fasal Bima Yojana. It was the composite measure of awareness, Interest and adoption.

It was measured by developing the separate indices of the awareness, interest and adoption of Pradhan Mantri Fasal Bima Yojana. Thus, adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana is the composite of awareness index, interest index and adoption index of the farmers.

It was worked out by adopting following formula.

$$\text{Adoption Behaviour} = \frac{AI + II + AI}{3}$$

AI= Awareness Index

II= Interest Index

AI= Adoption Index

The adoption behaviour was categorized as low, medium and high as below on the basis of composite index of awareness, interest and adoption.

Sl. No.	Adoption Behaviour	Index
1	Low	Up to 33.33
2	Medium	33.34 to 66.66
3	High	Above 66.66

3.9.2.1 Awareness

Awareness is the ability to directly know and perceive, to feel or to be conscious of events, objects, thoughts, emotions or sensory pattern. An important dimension of the study was to know the awareness of the farmers about PMFBY.

For the present study, it was operationalized as awareness level of respondents about PMFBY. For measuring this variable, the respondents were asked whether they have any knowledge about PMFBY and its benefits. Accordingly, responses were recorded as Yes and No with scores of 1 and 0, respectively.

In awareness stage, the individual is exposed to the innovation or scheme but lack complete information about it. This process occurs by the change or by the purposeful efforts made by accrued benefit PMFBY.

It is operationally defined as the behaviour of the farmers through which he exposed to the Pradhan Mantri Fasal Bima Yojana but

lack complete information about it. The statement was framed and the responses were elicited on 2 point continuum i.e. aware and not aware by assigning a score of one and zero respectively.

In present study, awareness was measured by developing awareness index and categorized the on the basis of obtained index by adopting following formula.

$$\text{Awareness Index} = \frac{\text{Obtained score}}{\text{Maximum obtainable score}} \times 100$$

Sl. No.	Awareness	Index
1	Low	Up to 33.33
2	Medium	33.34 to 66.66
3	High	Above 66.66

3.9.2.2 Interest:-

In interest stage or information stage the individual becomes interested in new idea and seeks additional information about in benefits of PMFBY.

Interest was operationalized as farmers liking for adoption of Pradhan mantra Fasal Bima Yojana i.e. which act or factor motivating him for involvement or adoption of Pradhan Mantri Fasal Bima Yojana.

The statement was framed and the responses were elicited on 2 point continuum i.e. interested created and interested not created by assigning a score of one and zero respectively.

It was measured by developing interest index and categorized on the basis of obtained by adopting following formula.

$$\text{Interest Index} = \frac{\text{Obtained score}}{\text{Maximum obtainable score}} \times 100$$

Sl. No.	Interest	Index
1	Low	Up to 33.33
2	Medium	33.34 to 66.66
3	High	Above 66.66

3.9.2.3 Adoption

Rogers (1963) defined adoption as the decision to make full use innovation in the best course of action available. It is operationally defined as an extent of actual adoption of Pradhan Mantri Fasal Bima Yojana by farmers.

It was measured on the basis of adoption of Pradhan Mantri Fasal Bima Yojana under of area soybean crop and in area under by the farmers. This score convert in adoption index.

$$\text{Adoption Index} = \frac{\text{Insured area of soybean crop}}{\text{Total area of soybean crop}} \times 100$$

Sl. No.	Adoption	Index
1	Low	Up to 33.33
2	Medium	33.34 to 66.66
3	High	Above 66.66

3.9.3 Constraint

Constraints are defined as use of force to influence or prevent as action or utility or state of being compelled to do or not to do something. - Reading (1971)

The Oxford dictionary meaning of the word constraints is confinement, restriction of liberty or compulsion of circumstances put upon the behavior.

In the present study Constraints are defined as the problem, difficulties face by the Farmers about adoption of Pradhan Mantri Fasal Bima Yojana (PMFBY). The frequency and the percentage of each constraint will work out for interpretation.

3.10 Tabulation and analysis of data

The collected data were carefully examined for completeness and correctness before tabulation. Both qualitative and quantitative classes were formed. In case of some variables, the classes were formed arbitrarily while in case of some variables accepted standard classification was adopted and for remaining others, the mean and standard deviation were considered. The data was then tabulated and the frequencies and percentages of the farmers in each category were worked out.

Following statistical techniques were used in the present study for analysis of data.

1) Arithmetic mean
2) Standard deviation
3) Coefficient of correlation

1) Arithmetic Mean ($\bar{X}$)

Mean was calculated by sum of all score and dividing by number of farmers. The formula for mean follows:

$$\bar{X} = \frac{\Sigma x}{N}$$

Where,

$\bar{X}$ = Arithmetic mean

ΣX = Sum of farmer score

N = Number of farmers

2) Standard deviation

It is measured of variability calculated around mean. It was calculated by the formula:

$$S.D. = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N}}$$

Where, $\overline{X}$= Mean

S.D. = Standard deviation

N = Number of observations

X = Value of observations

3) Coefficients of correlation

The relationship between independent and dependent variables was calculated with the help of given formula:

$$r = \frac{N\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{[(N\Sigma x^2 - (\Sigma x)^2)(N\Sigma y^2 - (\Sigma y)^2)]}}$$

Where,

r = coefficients of correlation

Σx= sum of the score of variable x.

Σy = Sum of the score of variable y.

Σxy= Sum of the products of x and y variable.

Σx^2 = Sum of square of x variables.

Σy^2 = Sum of square of y variables.

N = Total number of farmers.

CHAPTER IV

SOCIO-ECONOMIC FEATURES OF WASHIM DISTRICT

The finding of any field research study in agriculture at the micro level cannot be generalized at the national level. However, finding of each study can be taken for granted as relevant for those areas having similar condition with regards to other factors. The finding therefore, must follow a clean mention about the socio-economic features of study area to facilitate better understanding of the observation and also to apply same in other areas with similar features. The present chapter is therefore devoted to discus in brief some of the socio-economic features of Washim district, just to facilitate comparison and to get better idea of the economy.

Maharashtra State has six revenue divisions viz., Mumbai, Pune, Nasik, Aurangabad, Amravati and Nagpur. Vidharbha area includes Amravati and Nagpur revenue division comprising eleven districts viz., Buldana, Akola, Washim, Yavatmal, Wardha, Nagpur, Bhandara, Gondia, Chandrapur and Gadchiroli. Washim and Gondia are newly formed districts bifurcating Akola and Bhandara districts respectively. Nagpur division includes Bhandara, Gondia, Chandrapur, Gadchiroli and Wardha are the eastern district of Vidarbha. The western districts are Buldana, Akola, Amravati, Yavatmal and Washim. The western districts are known for its cotton crop and the eastern region is for good quality of rice. Vidarbha as a whole contributes cotton, rice, jowar, millets, oilseeds, soybean, citrus, forest timber etc.

The present study is confined to of Washim district of Western Vidarbha. The agro-climatic conditions differ from place and even in close vicinity also.

4.1 Location of district

Washim district falls in Vidarbha region of Maharashtra. It comprises of 6 tahsil. It lies between 20^0 06'N$77^0$09'E / 20.1^{0}N 77.15^{0}E. It covers area of 513124ha. Washim district is surrounded by Amravati and Akola district in North, and Yavatmal district in the East, Hingoli district to the South and Buldana district toward West.

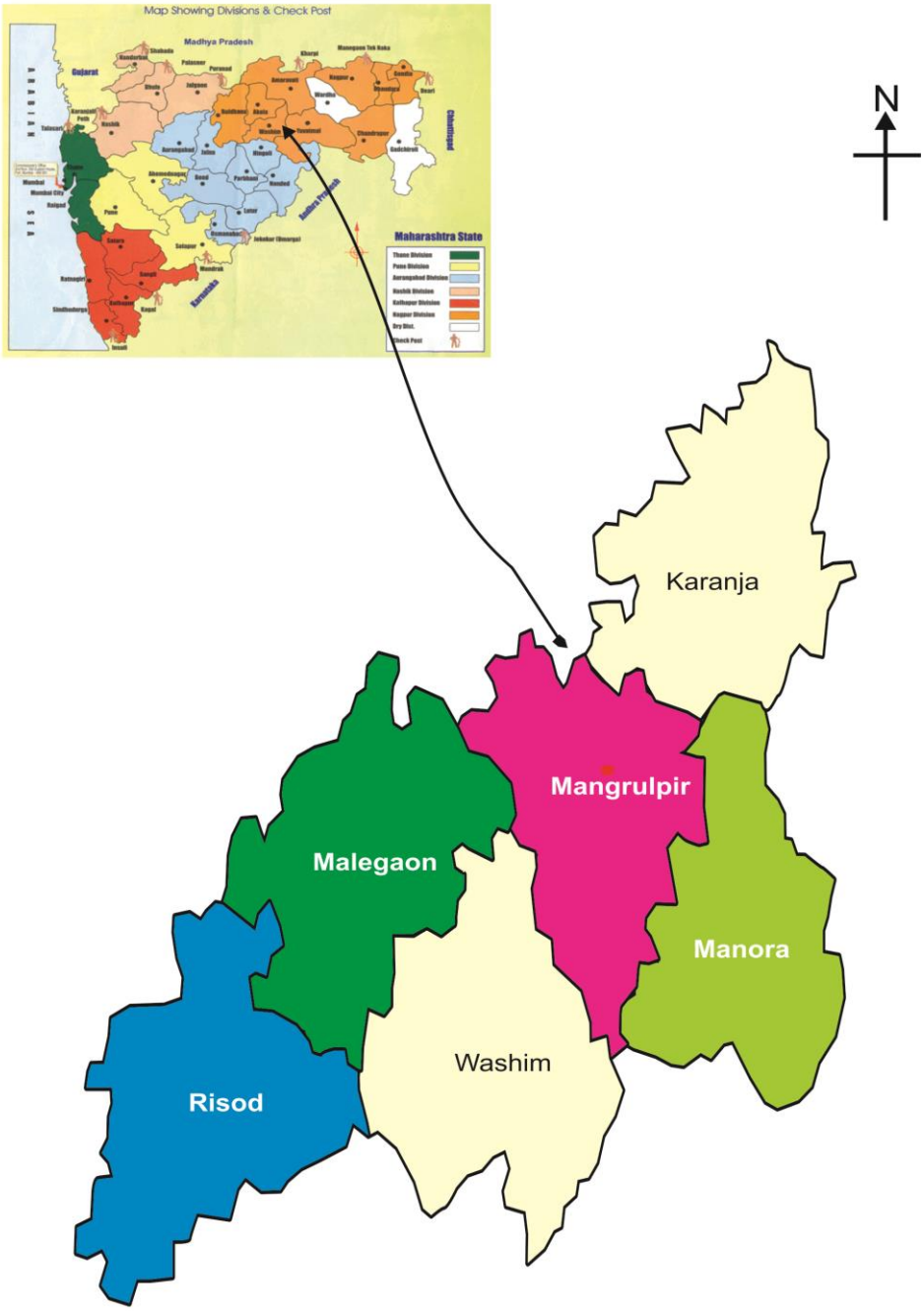

Fig. 2 Map of showing selected tahsils of Washim district

4.2 Topography and soil

The district forms part of Deccan Plateau with slope towards southeast from Sahayadri hills and has a varied topography consisting of hills, plains and undulating topography near riverbanks. The district forms a part of Godavari and Tapi basins. The Balaghat Plateau comprises of low-lying hills forming water divide. Many of the tributaries to Godavari and Tapi rivers originate from the Balaghat Plateau. Penganga River is the main river flowing through the district. Other rivers are Adol, Aran, Kapsi, Nirguna and Mun.

The soil of the district is basically derived form Deccan Trap Basalt and major part of the district is occupied by medium black soil of 25-50 cm depth occurring in the plains in entire south western, north eastern and northern parts of the district, whereas the shallow black soil of 7.5 to 25 cm depth occur in restricted hilly parts of the district in central elongated part and the northern peripheral part.

4.3 Climate and rainfall

Being away from the sea, the washim district extreme climate. The weather during winter is too cool, while in summer it is to hot. The average minimum and maximum temperature extremities observed throughout the year was 10^0 C and 46.5^0 C, respectively. Washim district falls is assured rainfall zone of Maharashtra state having on an average rainfall between 750 to 1000 mm.

4.4 Land use pattern

The details of land use pattern of Washim district are presented in Table 4.

Table 4. Land use pattern of Washim district.

Sl.No.	Particular	Area (ha)
1.	Total geographical area	513124
2.	Area under forest	37068
3.	Barren and uncultivable land	18280
4.	Permanent pastures and other grazing land	3400
5.	Land under miscellaneous tree crops and grooves not included in net area sown	1000
6.	Cultivable waste land	10000
7.	Land put under non-agricultural use	8000
8.	Current fallow	8000
9.	Other fallow	12000
10.	Net sown area	386000
11.	Area sown more than once	38000
12.	Gross cropped area	424000
13.	Cropping intensity (%)	109.8

(Source: District Socio-economic Review, 2009 by Govt. of M.S., Mumbai)

4.5 Cropping pattern

The usual cropping is determined by large number of factors. The most important factors are climate, soil, topography, customs and distance to market Table 5.

Table 5: Cropping pattern of Washim district

Sl. No.	Crop	Area (ha)
1.	Wheat	116000
2.	Kharifjowar	7600
3.	Rabi jowar	2200
3.	Bajra	300
4.	Maize	400
5.	Other cereals.	103
	Total cereals.	**126603**
6.	Gram	55100
7.	Tur	55500
8.	Mung	8100
9.	Udid	10200
10.	Other Pulses	1005
	Total Pulses	**129905**
	Total food grains	**256508**
11.	Sugarcane	256
12.	Cotton	18400
	Total Fibre crops	**18656**
13.	Soybean	300800
14.	Sunflower	111
15.	Groundnut	1348
16.	Other oilseeds	2330
	Total oilseeds	**304589**
17.	Total fruits and Vegetables	6924
18.	Other crops	15598
	Gross cropped area	**429173**

(Source: District Socio-economic Review, 2009)

4.6 Crop season and crop rotation

There are two important crop seasons i.e. *Kharif* and *Rabi* where as in summer season land generally remains fallow and preparatory tillage operations are under taken.

Table 6: Crop season and crop rotation

Sl. No.	*Kharif*	*Rabi*
1	Cotton	-
2	Cotton + tur + jowar	-
3	Soybean	Gram / Wheat
4	Soybean + tur	Wheat
5	Jowar	Gram
6	Cotton+ mung / udid	Safflower / wheat
7	Cotton + tur	Wheat
8	Cotton+ tur + jowar +mung	Sunflower
9	Mung	Gram
10	Cotton + mung	-

Cotton, jowar are important crops grown in *Kharif* season on large scale. Tur, mung and udid, are also grown in *Kharif* on large scale. Wheat and gram are important *Rabi* crops grown in the area. Sunflower, safflower, some spices and vegetable, fruit crop are also grown in *Rabi* season wherever the sources of irrigation is mostly through wells and dam. The manners in which crop rotation are commonly followed is presented in Table 6.

4.7 Input supply

Agricultural inputs like seed, manure, fertilizers, insecticides, pesticides etc. are required by the farmers are made available to them through number of agricultural service centers established at district level and block level.

Maharashtra State Seed Corporation Ltd., Dr. PDKV, Akola and other private seed companies supply the quality seeds to the farmers. The farm inputs are made available to the farmers by co-operative societies and nationalize banks functioning at block level, panchayat samiti also provide inputs to the farmers. Co-operative society supply input against the loan sanctioned by the District Central Co-operation Bank to individual cultivator.

4.8 Markets

For the marketing of agricultural produce, Agricultural Produce Market Committees are functioning in the district. All six tahsil having facilities of regulated markets functioning in the district. These sub-markets are connected with roads and having facilities of banking, electricity etc.

CHAPTER V

RESULTS AND DISCUSSION

This chapter deals with the presentation of results of investigation and critical discussion of the results presented. It present investigation aims at focusing the adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana (PMFBY). It presents the distribution of the respondents with reference to their selected personal, social economic, communicational and psychological characteristics. The data collected from 120 respondents were compiled and appropriate statistical tests were used for drawing the inferences.

The data collected by adopting the procedure presented earlier in the methodology. The results obtained from the analysis of the data in accordance of the study objectives along with logical discussion have been given to interpret the observed phenomena. With the help of findings of the research studies conducted earlier also been taken into account to defend the interpretation given here. The results of the investigation are presented and discussed in this chapter with following heads:

5.1 Personal, Socio-economic, communicational and psychological characteristics of the farmers.

5.2 Adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana

5.3 Relationship between Personal, socioeconomic and psychological characteristics and adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana.

5.4 Constraints faced by the farmers in adoption of Pradhan Mantri Fasal Bima Yojana

5.5 Empirical model.

5.1 Personal, Socio-economic, communicational and psychological characteristics of the respondents

Here, is included the frequency and per cent distribution of the respondents with respect to their selected personal, socio-economical, communicational and psychological characteristics viz., age, education, land holding, occupation, annual income, farming experience, cropping pattern, source of information, innovativeness and risk orientation of the respondents . The data have been furnished as below

5.1.1 Age

Age is important factor which determines the adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana. The findings on age of the farmers are presented in Table 7.

Table 7. Distribution of the respondents according to their age

Sl. No.	Age	Respondents (n=120)	
		Frequency	Percentage
1.	Young (Up to 35 yrs.)	27	22.50
2.	Middle (36 yrs. to 50 yrs.)	75	62.50
3.	Old (Above 50 yrs.)	18	15.00
Total		**120**	**100.00**

From Table 7 it was observed that, 62.50 per cent of the respondents were from middle age group, followed by young 22.50 per cent and old 15.00 per cent. Thus, it was concluded that majority of respondents belonged to middle age category.

The finding are in the line with the findings of Dhande (2017) and Verma *et al.* (2018)

5.1.2 Education

Education is the process of bringing about desirable changes in the behaviour. Educational status of an individual is considered as one of the major factors influencing the adoption behaviour of farmers about

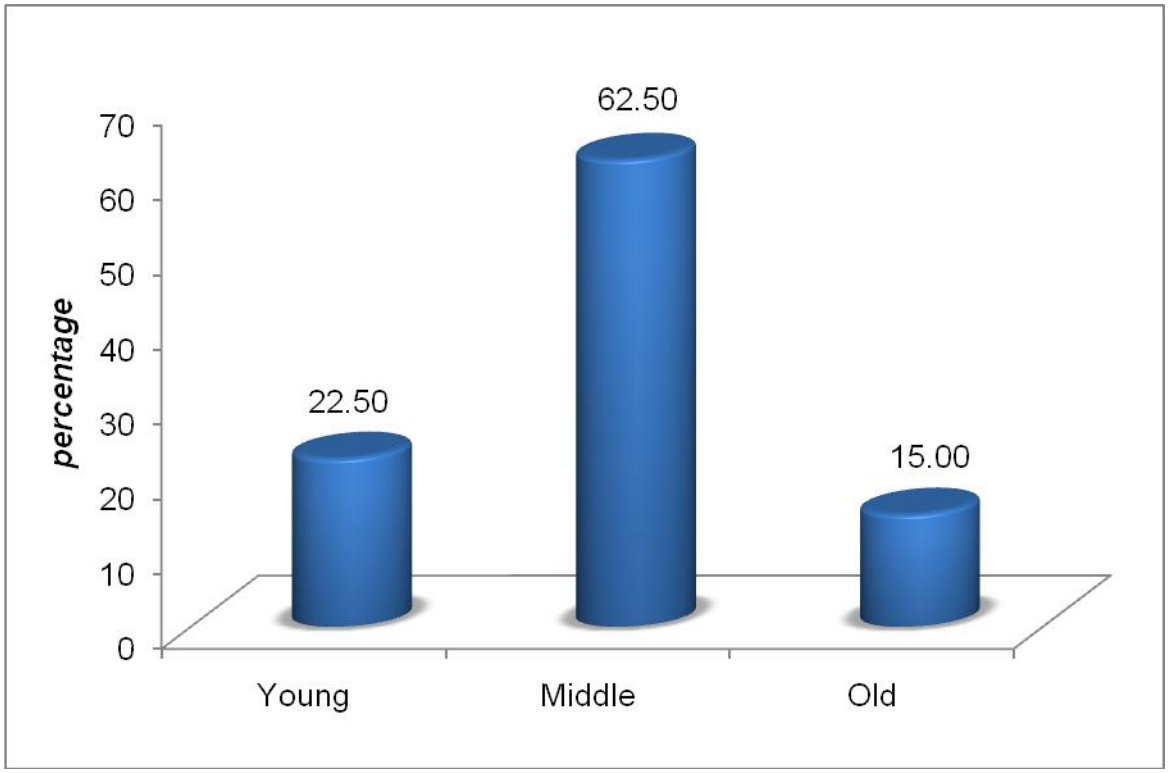

Fig. 3 Distribution of respondents according to their Age

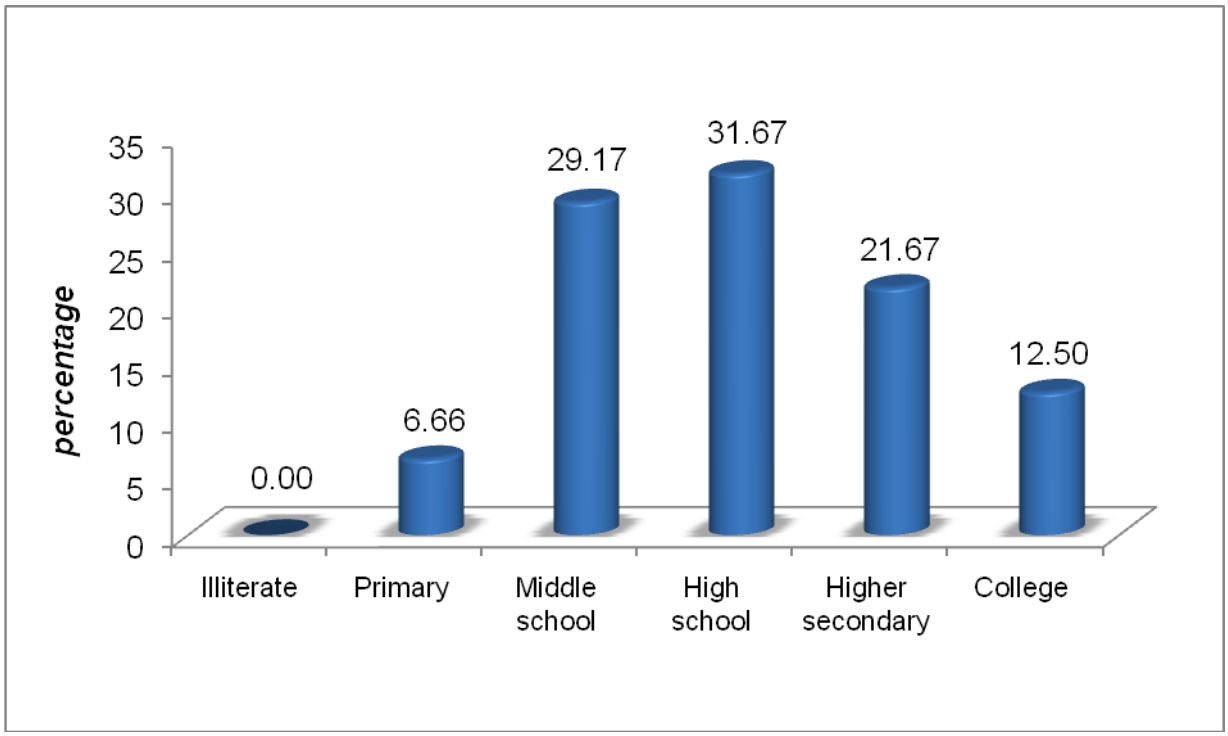

Fig. 4 Distribution of respondents according to their Education

Pradhan mantra Fasal Bima Yojana. The education of the respondents was studied and the result has been presented in Table 8.

Table 8. Distribution of the respondents according to their education

Sl. No.	Level of education	Respondents (n=120)	
		Frequency	Per cent
1.	Illiterate (No Education)	00	0.00
2.	Primary school (1st to 4th std.)	08	06.66
3.	Middle school (5th to 7th std.)	33	27.50
4.	High school (8th to 10thstd)	38	31.67
5.	Higher secondary (11th std. to 12th std)	26	21.67
6.	College (Above 12th)	15	12.50
	Total	**120**	**100.00**

The Table 8 revealed that, 31.67 per cent of respondents were educated upto high school level, whereas 27.50 per cent educated upto middle school level, whereas 21.67 per cent were educated up to higher secondary level, whereas 12.50 percent respondents were educated up to college level and 06.66 per cent respondents were educated up to primary education level and no respondents was observed in illiterate category. Thus, it is concluded that majority of the respondents educated up to high secondary level.

The finding are in the line with the findings of Kotwal (2009) and More (2018).

5.1.3 Land holding

The hectare of land possessed by an individual had might influence on adoption of innovation and also determine the actual status of an individual in farming community. The results obtained has been presented in Table 9.

Table 9.Distribution of the respondents according their land holding

Sr. No.	Land holding	Respondents (n=120)	
		Frequency	Percentage
1.	Marginal farmer (Up to 1.00 ha)	22	18.33
2.	Small farmer (1.01 to 2.00 ha)	45	37.50
3.	Semi-medium farmer (2.01 to 4.00ha)	48	40.00
4.	Medium farmer (4.01 to 10.00 ha)	05	04.17
5.	Big farmer (Above 10.01)	00	0.00
	Total	**120**	**100.00**

From Table 9 it is revealed that, most of the farmers (40.00%) possessed semi medium category of land holding (2.01 to 4.00 ha), followed by small category (37.50%) of land holding (1.01 to 2.00ha). While (18.33%) respondents belonged to marginal land holing category (up to 1.00ha), and only 04.17 per cent of the respondents belonged to medium land holding category (04.01 to 10.00 ha). and no respondents have big land holding category which is above 10.01 hectares. It is concluded that maximum per cent of the respondents were found in semi medium land holding category.

This finding is in line with the findings of khare (2013) wherein, he found that (50.00 %) of the respondents were medium land holding category.

5.1.4 Occupation

The data with regards to distribution of respondents according to their have been presented in Table 10.

The distribution analysis pertaining to occupation of respondents in Table 10 indicates that, 46.67 per cent of the respondents had agriculture as the main occupation. It was followed by, 31.67 per cent had Agriculture + labour, 09.17 per cent of respondents had Agriculture + Business, whereas 08.33 per cent of respondents had agriculture + allied occupation and 04.16 per cent of respondents had agriculture + service as occupation of the family respectively.

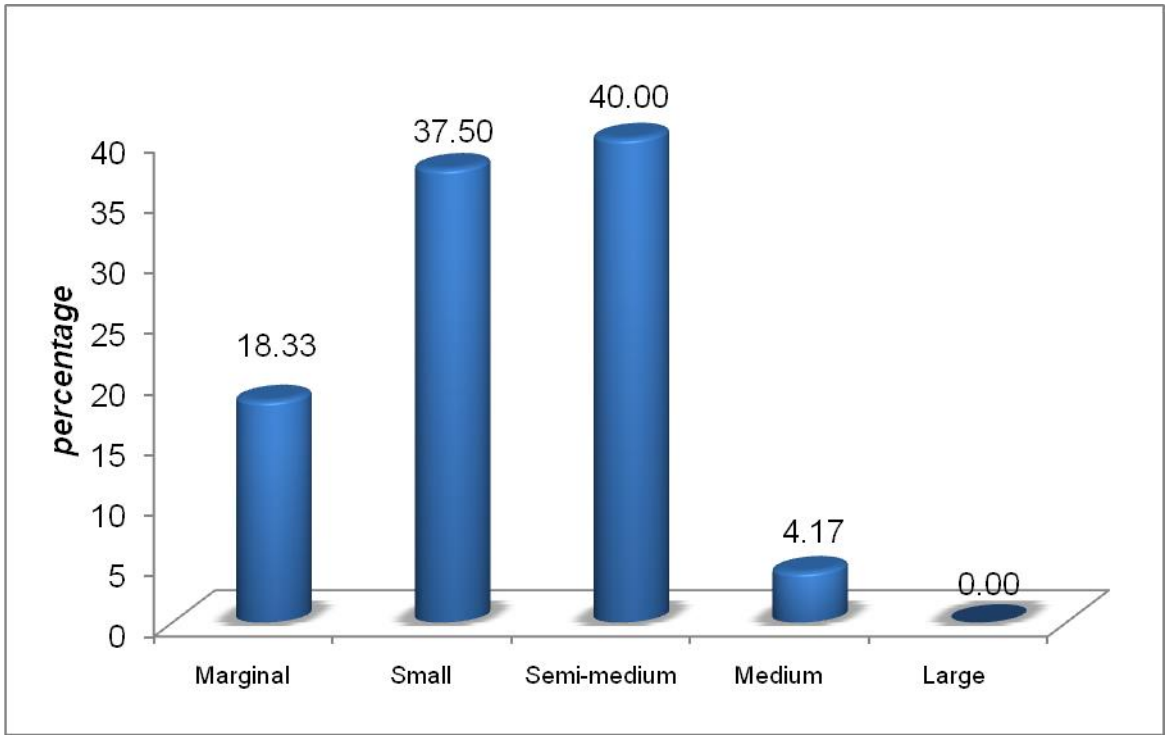

Fig. 5 Distribution of respondents according to their Land holding

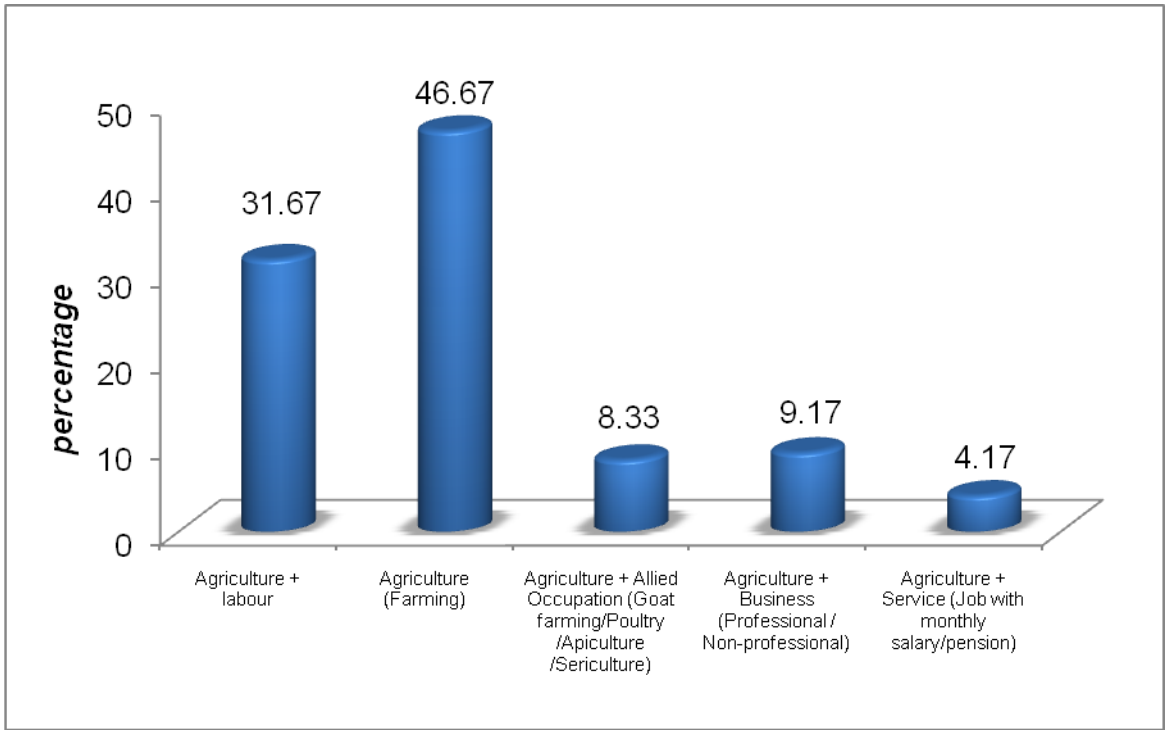

Fig. 6 Distribution of respondents according to their occupation

Table 10. Distribution of the respondents according their occupation

Sr. No.	Occupation	Respondents (n=120)	
		Number	Percentage
1.	Agriculture + Labour	38	31.67
2.	Agriculture (Farming)	56	46.67
3.	Agriculture + Allied Occupation (Goat farming/Poultry /Apiculture /Sericulture)	10	08.33
4.	Agriculture + Business (Professional / Non-professional)	11	09.17
5.	Agriculture + Service (Job with monthly salary/pension	05	04.16
	Total	**120**	**100.00**

The finding was in the line with the findings of Katkar (2009) and Ghoslya (2016)

5.1.5 Annual income

Annual income refers to the total income in year of all the family members of the respondents from all the sources. Annual income of the family helps to project the overall economic position and is indication of economic stability. The result obtained are presented in Table 11.

Table 11 Distribution of the respondents according their annual income

Sl. No.	Annual income (Rs.)	Respondents (n=120)	
		Frequency	Percentage
1	Up to 50000	09	07.50
2	50001 to 100000	37	30.83
3	100001 to 150000	42	35.00
4	150001 to 200000	22	18.33
5	Above 200000	10	08.34
	Total	**120**	**100.00**

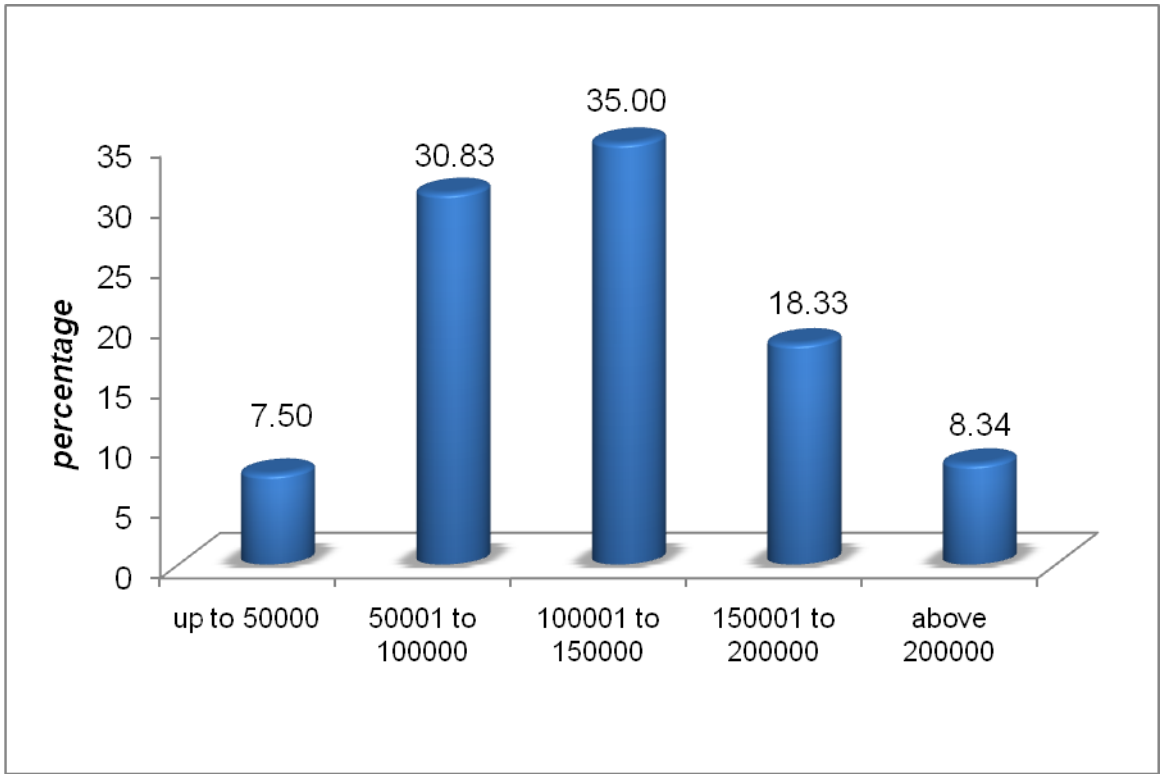

Fig. 7 Distribution of respondents according to their Annual income

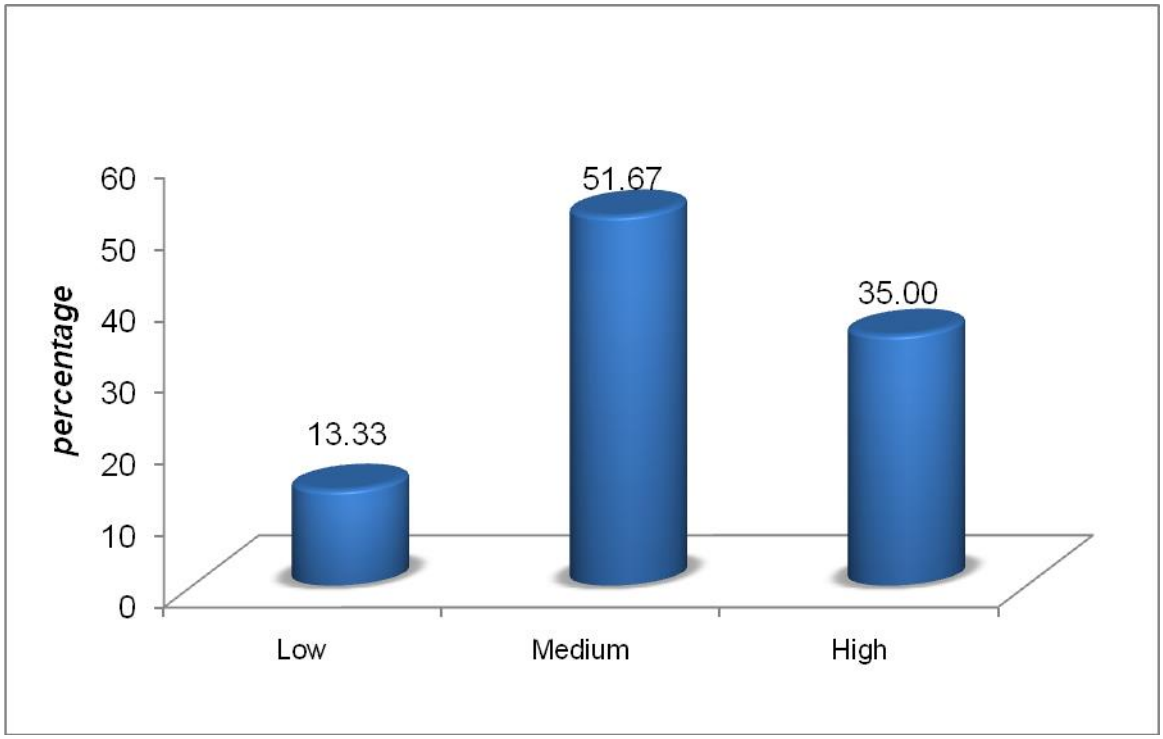

Fig. 8 Distribution of respondents according to their farming experience

The Table 11 revealed that, 35.00 per cent of respondents had annual income of Rs 100001/- to 150000, whereas 30.83 per cent of respondent's annual income Rs. Was 50001 to 100000. Whereas08.34 per cent were Rs. above 200000, and whereas 07.50 percent respondents had annual income upto 50000/-

This findings were in conformity with the findings of Surve (2002) and Deshmukh et.al (2007).

5.1.6 Farming experience

Experience in farming indicates the level of familiarity of farmers in farming. The beneficiaries were classified into three categories as per their experience in farming in years. The data in this regard are presented in Table12.

Table 12 Distribution of the respondents according to their farming Experience

Sl. No.	Farming experience	Respondents (n=120)	
		Frequency	Percentage
1	Low (Up to 10 yrs)	16	13.33
2	Medium (11 to 20 yrs.)	62	51.67
3	High (Above 20 yrs.)	42	35.00
	Total	**120**	**100.00**

From Table 12 it was evident that, more than half (51.67%) of the respondents had medium farming experience followed by high (35.00%) and low farming experience (13.33%).

This observations were similar with findings of Stephen (2012), Mankar *et al*. (2013) and Mahadevaswamy (2014)

5.1.7 Cropping pattern

Cropping pattern is the yearly sequence and arrangement of crops. The respondents follow various types of cropping pattern considering soil type, agro-climatic conditions. Irrigation facilities, market availability, infrastructure facilities and resources required for production of

crops. The distribution of the beneficiaries by their cropping pattern are presented in Table 13.

Table 13. Distribution of the respondents according their cropping pattern

Sl. No.	Cropping pattern	Respondents (n=120)	
		Frequency	Percentage
1	Kharif	100	83.33
2	Rabi	74	61.66
3	Summer	20	16.66
4	Perennial	7	0.05

With regard to cropping pattern, it was observed from Table 13 that majority (83.33 %) of the farmers belonged to Kharif cropping pattern category, while 61.66 per cent in rabi season, 16.66 per cent in summer season and perennial 0.05 per cent .

This finding was in conformity with the findings of Dhande (2017), Mihale *et al*. (2009) and Gosh and Kumar (2010).

5.1.8 Sources of information:

Sources of information play an important role in transfer of scheme from government to farmers. The more the exposure to media by a farmer, the more would be the gain in knowledge and information. Distribution of respondents according to their frequency use of various sources of information given below Table 14.

The data depicted in Table 14 revealed that detailed In case of Localized of source information, majority of the respondents (52.50%) were always using friends as a source of information, followed by (27.50%) sometime and (20.00%) never use this source of information. On the second position majority of the respondents (50.83%) were always using Local leader followed by (33.33%) sometimes, while (15.84%) never use this source. Other localized sources of information used regularly by majority of respondents were progressive farmers (34.17%).

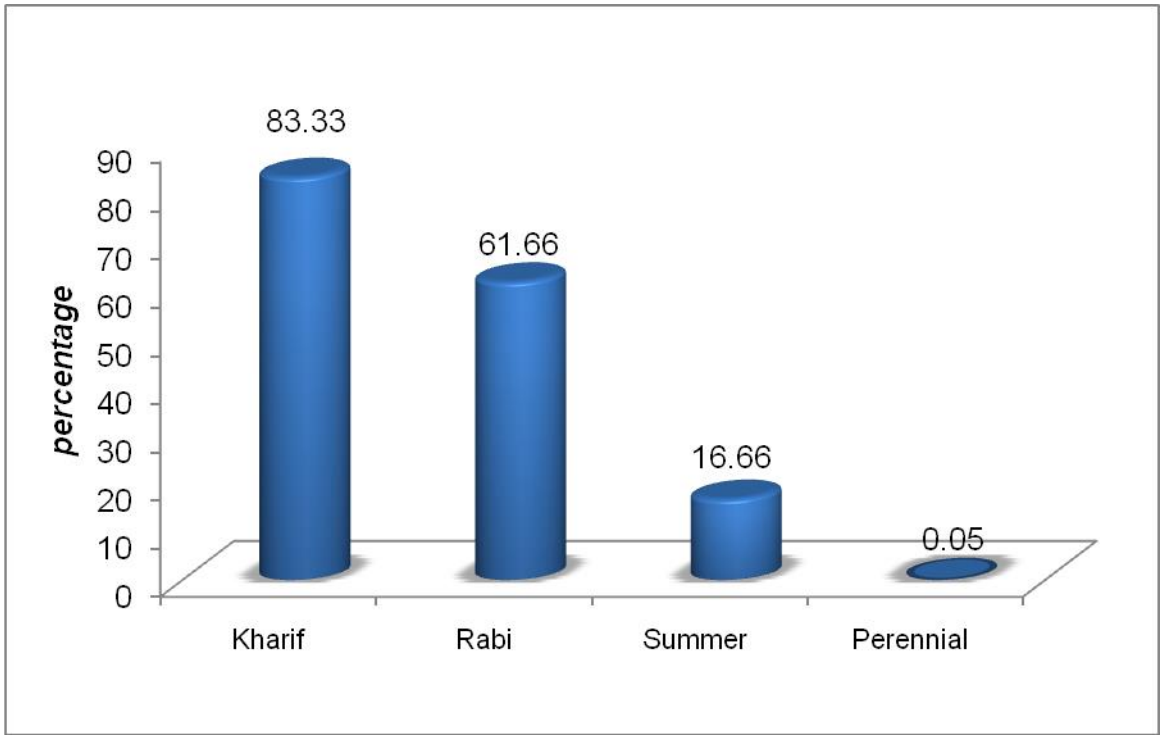

Fig. 9 Distribution of respondents according to their Cropping pattern

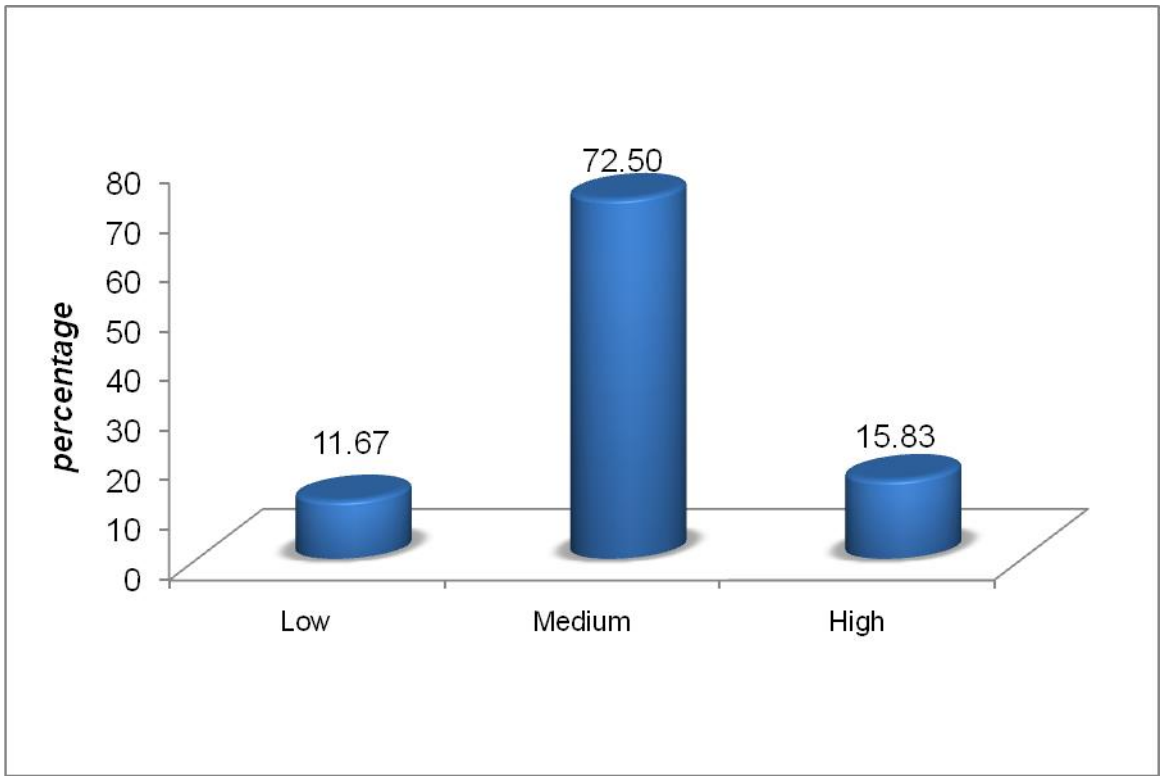

Fig. 10 Distribution of respondents according to their sources of information

Table 14. Distribution of respondents according to their frequency use of various sources of information

Sl. No.	Sources Of Information	Respondents (n=120)		
		Always	Sometimes	Never
A.	**Localized Sources**			
1)	Progressive farmers	41 (34.17)	40 (33.33)	39 (32.50)
2)	Local Leader	61 (50.83)	40 (33.33)	19 (15.84)
3)	Friends	63 (52.50)	33 (27.50)	24 (20)
B.	**Banks**			
1)	Nationalized Bank	22 (18.33)	47 (39.17)	51 (42.50)
2)	District Central Co-operative bank	74 (61.67)	20 (16.67)	26 (21.66)
3)	Gramin Bank	22 (18.33)	59 (49.17)	39 (32.50)
4)	Service Co-operative	80 (66.67)	23 (19.17)	17 (14.16)
C.	**Institutional Sources**			
1)	Gramsevak	10 (08.33)	38 (31.67)	72 (60.0)
2)	Taluka Agricultural Officers	33 (27.50)	48 (40)	37 (30.83)
3)	Block development Officer	3 (2.50)	0 (0)	117 (97.50)
4)	Agriculture Officer (AO)	28 (23.33)	43 (35.83)	49 (40.84)
5)	Agricultural Extension Officer	7 (05.83)	22 (18.33)	91 (75.83)
6)	Agril. Assistant	34 (28.33)	76 (63.34)	10 (08.33)
D.	**Mass Media**			
1)	Radio	32 (26.67)	22 (18.33)	66 (55.00)

2)	T.V.	55 (45.83)	31 (25.83)	34 (28.34)
3)	Newspaper	36 (30)	41 (34.17)	43 (35.83)
4)	Agriculture Publication	13 (10.83)	38 (31.67)	69 (57.50)
5)	Internet	45 (37.50)	38 (31.67)	37 (30.83)
6)	Mobile SMS / voice message	32 (26.67)	29 (24.17)	59 (49.16)
7)	Other	13 (10.83)	11 (09.17)	96 (80)

Figures in parentheses indicate percentage.

In case of bank of source of information, majority of the respondents (66.67%) were always as using District Central Cooperative bank as a source of information, followed by (19.17%) sometime and(14.16%) never use this source of information. On the second position majority of the respondents (61.67%) were always using service cooperative followed by (16.67%) sometimes, while (21.66%) never use this source. Other bank sources of information used regularly by majority of respondents were nationalized bank and Gramin bank both had same (18.33%).Where service cooperative working as Akola district central cooperative bank at taluka level and highest farmers insured in this bank.

In case of institutional source of information, majority of the respondents (28.33%) were always using agriculture assistant as a source of information, followed by (63.34) sometime and (08.33%) never use this source of information. On the second position majority of the respondents (27.50%) were always using Gramsevak, followed by (40.00%) sometimes, while (30.83%) never use this source. Other institutional sources of information used regularly by majority of respondents were agriculture officer (23.33%).

Regarding mass media sources majority of the respondents (45.83%) were always using television as source of information, followed by internet (37.50%), (26.67%) Radio and mobile (26.67%).

Table: 15 Distribution of respondents according to their source of information

Sl. No.	Sources of information	Respondents (n=120)	
		Frequency	Percentage
1	Low	14	11.67
2	Medium	87	72.50
3	High	19	15.83
	Total	**120**	**100.00**

From Table 15, it is noted that, majority (72.50%) of the respondents belongs to medium sources of information category, however each of the (15.83%) and (11.67%) of the respondents belongs to high and low sources of information category, respectively.

This might be due to availability of more sources of information about Pradhan Mantri Fasal Bima Yojana. These findings were in line with the finding of Pulliken (2001) and Kale and Kadam (2012).

5.1.9 Innovativeness

An innovative is the important factor in adoption of scheme, as it indicates the willingness of an individual to know about new things, ideas and new facts related to scheme and up to what extend him is going to apply this things in the agriculture. Therefore, the innovativeness of respondents was studied and the results are presented in Table 16.

Table 16 Distribution of respondents according to their innovativeness

Sl. No.	Innovativeness	Respondents (n=120)	
		Frequency	Percentage
1	Low	31	25.83
2	Medium	77	64.17
3	High	12	10.00
	Total	**120**	**100.00**

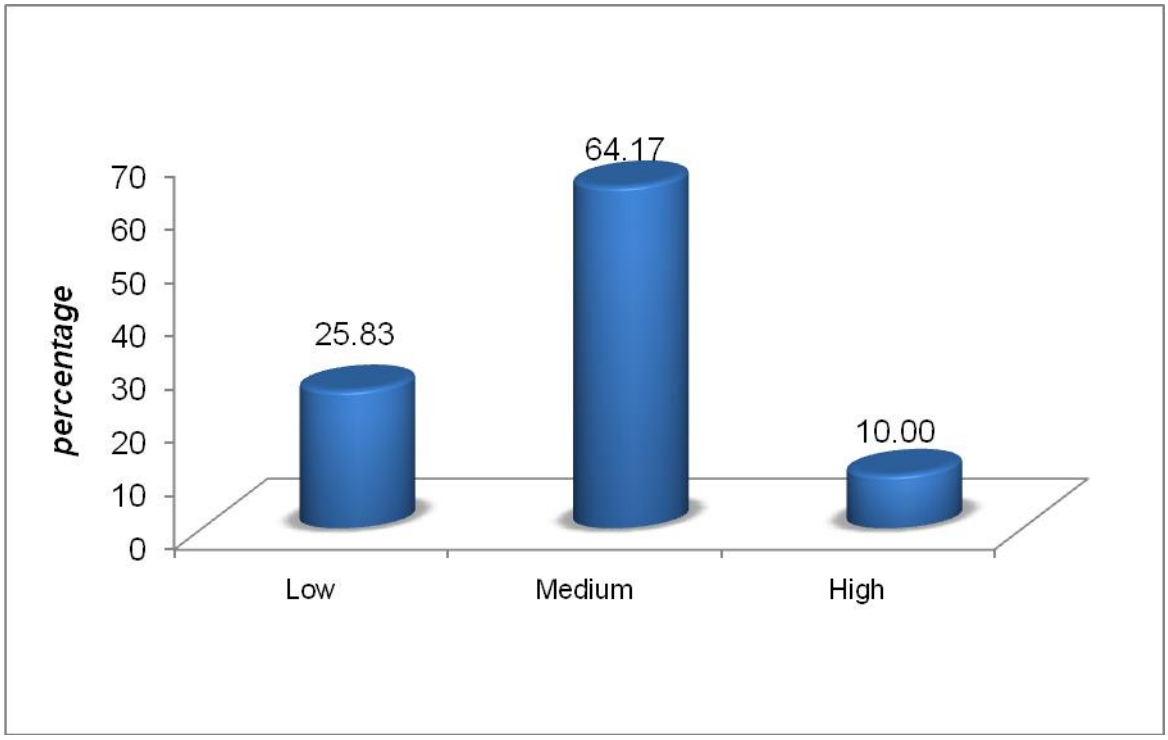

Fig. 11 Distribution of respondents according to their Innovativeness

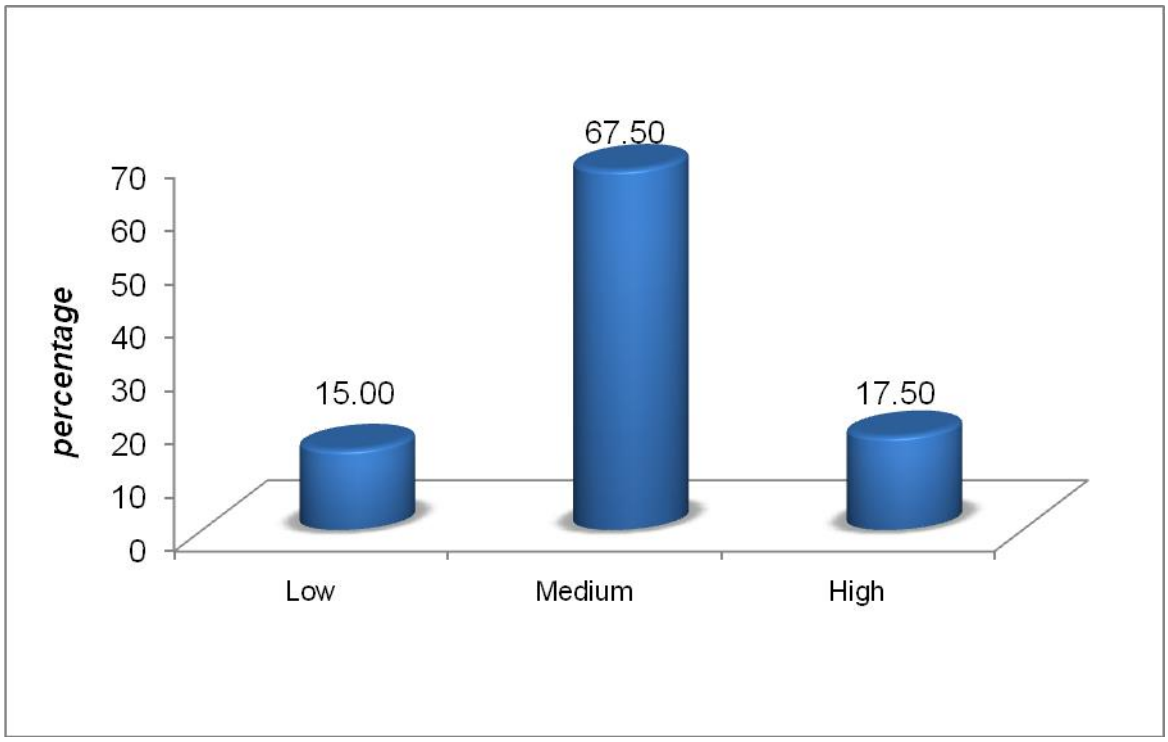

Fig. 12 Distribution of respondents according to their Risk Orientation

From Table 16 with respect to innovativeness, majority (64.17%) of the respondents belongs to medium innovativeness category, however each of the (25.83%) and (10.00%) of the respondents belongs t0 low and high innovativeness category, respectively.

These findings were in line with the finding of Sihare (2015) and Katkar (2009)

5.1.10 Risk orientation

The risk orientation is described as the degree to which an individual is oriented towards risk and uncertainty in agriculture and has courage to face the risk in farming. This is supposed to be one of the important qualities in efficient management of the crop. The data pertaining to this aspect presented in Table 17.

Table 17. Distribution of the respondents according their risk orientation

Sl. No.	Risk orientation	Respondents (n=120)	
		Frequency	Percentage
1	Low	18	15.00
2	Medium	81	67.50
3	High	21	17.50
	Total	**120**	**100.00**

It was clear from Table 17 that, majority (67.50%) of respondents had medium level of risk orientation followed by high (17.50%) and low (15.00%) levels of risk orientation.

Similar findings were reported by Surve (2002), Venkataramalu (2003), Kotwal (2009) and Kale and Kadam (2012).

5.1.11 Knowledge about Pradhan mantra Fasal Bima Yojana:

The results regarding knowledge of respondents has been presented in Table 18.

Table 18 Distribution of respondents according their knowledge about Pradhan Mantri Fasal Bima Yojana (PMFBY)

Sl. No.	Statement	Respondents (n=120)	
		Frequency	Per cent
1	Information about PMFBY	120	100.00
2	Prime objective of PMBFY is to provide financial support due to crop loss	90	75.00
3	Risk covered are natural fire / lighting / storm / cyclone / flood / drought	71	59.17
4	Loanee farmers are compulsory under PMBFY	31	25.83
5	Premium rate of soybean crop	84	70.00
6	Information about covered under the scheme	40	33.33
7	Premium covered for small / marginal farmers 75 per cent and other farmers 50 per cent	42	35.00
8	This scheme Unit of insurance is area approach	57	47.50
9	Documents required for PMFBY	83	69.16
10	Time period of getting of claim within is 3 months or above	91	75.83
11	Crop can be get insured through financing institution / insurance agent	92	76.67
12	In case of crop loss farmers can report to concerned patwari / bank is within in 72 hr	75	62.50

Figures in parentheses indicate percentage.

It is evident from Table 18 that, per cent of respondents had knowledge about statement, Information about PMFBY (100.00%), Prime objective of PMBFY is to provide financial support due to crop loss

(75.00%), covered Risk covered are natural fire / lighting / storm / cyclone / flood / drought (59.17%), loanee farmers are compulsory under PMBFY (25.83%), premium rate of soybean crop (70.00%), All states & Union Territories covered under the scheme (33.33%),Premium covered for small / marginal farmers 75 per cent and other farmers 50 per cent (35.00%), This scheme Unit of insurance is area approach(47.50%), documents required for PMFBY (69.16%),Time period of getting of claim within is 3 months or above (75.83), know Crop can be get insured through financing institution / insurance agent (76.67%),In case of crop loss farmers can report to concerned patwari / bank is within in 72 hr (62.50%)

Table 19 Distribution of respondents according to their Knowledge Index

Sl. No.	Knowledge index	Respondents (n=120)	
		Frequency	Percentage
1	Low	19	15.83
2	Medium	87	72.50
3	High	14	11.67
	Total	**120**	**100.00**

From Table 19, with respect to knowledge about Pradhan Mantri Fasal Bima Yojana, majority (72.50%) of the respondents belongs to medium level of knowledge category, however each of the (15.83%)and (11.67%) of the respondents belongs to low and high knowledge level category, respectively

The findings of the present study were similar to the findings of Roy and Bhagawat (2012) and Joseph *et al.* (2014)

5.1.12 Attitude towards Pradhan Mantri Fasal Bima Yojana:-

An attitude indicates the positive or negative feeling of the individual respondents about adopted of Pradhan Mantri Fasal Bima Yojana. The attitude also reflects on actual the adoption behaviour of respondents.

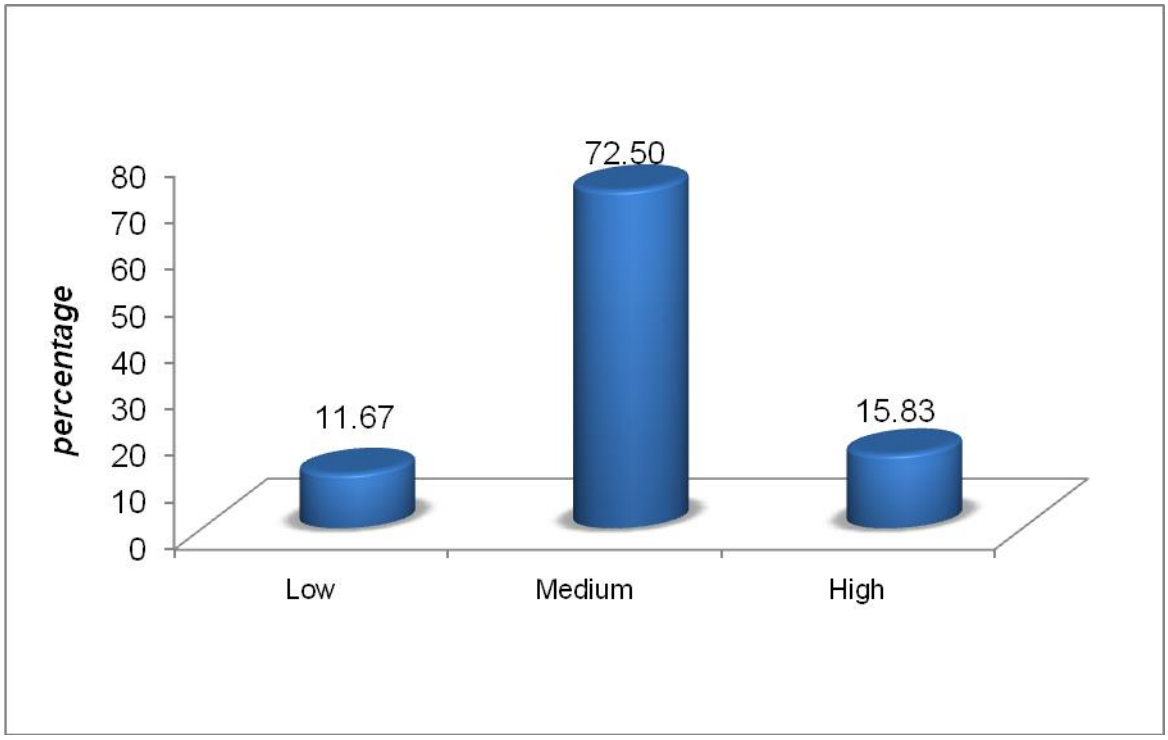

Fig. 13 Distribution of respondents according to their Knowledge about PMFBY

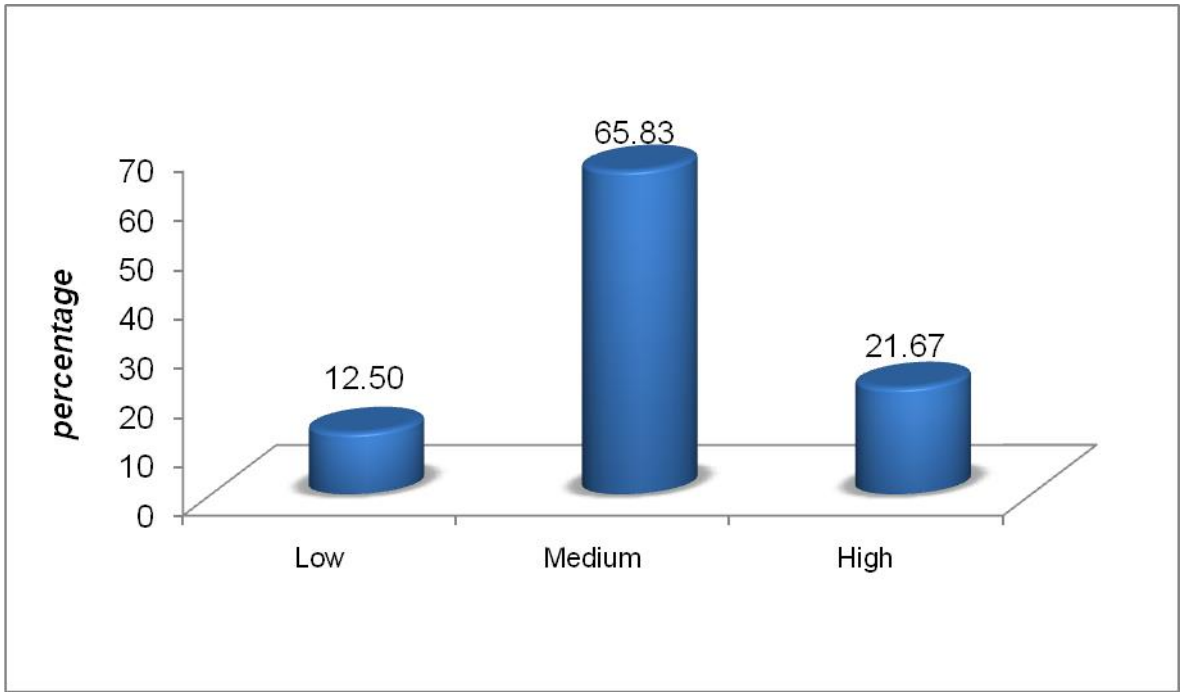

Fig. 14 Distribution of respondents according to their Attitude about PMFBY

Table 20 Distribution of respondents according to their attitude about Pradhan Mantri Fasal Bima Yojana

Sl. No.	Attitude	Respondents (n=120)		
		Agree	Undecided	Disagree
1	PMFBY is not compulsory.	30 (25.00)	36 (30.00)	54 (45.00)
2	This scheme help me at the time of repayment of losses.	60 (50.00)	36 (30.00)	24 (20.00)
3	Insurance make it easier to obtain crop loan from bank.	58 (48.33)	43 (35.83)	19 (15.84)
4	Paying crop insurance is stressful.	56 (46.67)	39 (32.50)	25 (20.83)
5	Insurer exploit the farmers with high premium.	79 (65.83)	20 (16.67)	21 (17.50)
6	PMFBY protect the farmer with fluctuation of production in future.	41 (34.17)	15 (12.50)	64 (53.33)
7	Crop insurance protect the farmers from risk equally.	66 (55.00)	34 (28.33)	20 (16.67)
8	Govt. give preference to farmers for giving within the expected time.	64 (53.33)	36 (30.00)	20 (16.67)
9	Private give preference to farmers for giving within the expected time.	39 (32.50)	33 (27.50)	48 (40.00)
10	Crop insurance assumed income stability of the farmer.	66 (55.00)	40 (33.33)	14 (11.67)
11	All insurance claims are provided within the expected time.	32 (26.67)	36 (30.00)	52 (43.33)
12	I feel the government give help.	60 (50.00)	39 (32.50)	21 (17.50)
13	PMFBY does not compensate farmers fairly.	48 (40.00)	40 (33.33)	32 (26.67)
14	This scheme saves me from risk. So I will continue with the programme.	78 (65.00)	32 (26.67)	10 (08.33)
15	I am satisfied with the provider of insurance services	60 (50.00)	34 (28.33)	26 (21.67)

Figures in parentheses indicate percentage.

An attempt has been made to place the respondents as per their attitude towards Pradhan Mantri Fasal Bima Yojana which was studied on three point continuum i.e. Agree, Undecided and Disagree and result are given in Table 20.

From Table 20 it is observed that Majority of the respondents were agree with the statement such as PMFBY is not compulsory (25.00%), This scheme help me at the time of repayment of losses (50.00%), Insurance make it easier to obtain crop loan from bank (48.33%), Paying crop insurance is stressful (46.67%),Insurer exploit the farmers with high premium (65.83%), PMFBY protect the farmer with fluctuation of production in future (34.17%), Crop insurance protect the farmers from risk equally (55.00%), Govt. give preference to farmers for giving within the expected time (53.33%), Private give preference to farmers for giving within the expected time (32.50%), Crop insurance assumed income stability of the farmer (55.00%), All insurance claims are provided within the expected time (26.67%), I feel the government give help (50.00%), PMFBY does not compensate farmers fairly (40.00%), This scheme saves me from risk So I will continue with the programme (65.00%), I am satisfied with the provider of insurance services (50.00%).

From Table 20 it is observed that Majority of the respondents were undecided with the statement such as PMFBY is not compulsory (30.00%), This scheme help me at the time of repayment of losses (30.00%), Insurance make it easier to obtain crop loan from bank (35.83%%), Paying crop insurance is stressful (32.50%), Insurer exploit the farmers with high premium (16.67%), PMFBY protect the farmer with fluctuation of production in future (12.50%), Crop insurance protect the farmers from risk equally (28.33%), Govt. give preference to farmers for giving within the expected time (30.00%), Private give preference to farmers for giving within the expected time (27.50%), Crop insurance assumed income stability of the farmer (33.33%), All insurance claims are provided within the expected time (30.00%), I feel the government give help (32.50%), PMFBY does not compensate farmers fairly (33.33%), This

scheme saves me from risk So I will continue with the programme (26.67%), I am satisfied with the provider of insurance services (28.33%).

From Table 20 it is observed that Majority of the respondents were disagree with the statement such as PMFBY is not compulsory (45.00%), This scheme help me at the time of repayment of losses (20.00%), Insurance make it easier to obtain crop loan from bank (15.84%), Paying crop insurance is stressful (20.83%), Insurer exploit the farmers with high premium (17.50%), PMFBY protect the farmer with fluctuation of production in future (53.33%), Crop insurance protect the farmers from risk equally (16.67%), Govt. give preference to farmers for giving within the expected time (16.67%), Private give preference to farmers for giving within the expected time (40.00%), Crop insurance assumed income stability of the farmer (11.67%), All insurance claims are provided within the expected time (43.33%), I feel the government give help (17.50%), PMFBY does not compensate farmers fairly (26.67%), This scheme saves me from risk. So I will continue with the programme (08.33), I am satisfied with the provider of insurance services (21.67%).

Table 21. Distribution of respondents according their attitude index

Sl. No.	Attitude index	Respondents (n=120)	
		Frequency	Percentage
1	Less favourable	15	12.50
2	Moderately favourable	79	65.83
3	Highly favourable	26	21.67
Total		**120**	**100.00**

From Table 21, with respect to attitude toward Pradhan Mantri Fasal Bima Yojana, it is observed that majority of respondents belong to moderately favourable (65.83%) of attitude category, however each of the (21.67%) and (12.50%) of the respondents belongs to highly favourable and Less favourable attitude category, respectively

The findings of the present study were similar to the findings of Sivaraj *et.al* (2016) and Dhande (2017).

5.2 Adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana

The distribution of respondents according their adoption behaviour about Pradhan Mantri Fasal Bima Yojana has been presented in table 22

Table 22 Distribution of respondents according their adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana

Sl. No.	Adoption Behaviour	Respondents (n=120)	
		Frequency	Percentage
1	Low	06	05.00
2	Medium	63	52.50
3	High	51	42.50
	Total	**120**	**100.00**

It is observed from Table 22 that majority of respondents 52.50 per cent medium adoption behaviour about Pradhan Mantri Fasal Bima Yojana followed by 42.50 per cent respondents had high level and 05.00 per cent low adoption behaviour of farmers about PMFBY.

5.2.1 Awareness:

It is observed from Table 23 that as regards personal sources 71.67 per cent of farmers were awared about PMFBY through friends followed by local leader (52.50 %) and beneficiary farmers (49.17 %).

In case of Group sources of awareness76.67 per cent of farmers were awererd about PMFBY through Banks followed by private institute (33.33 %) and agriculture Officers (31.67 %).

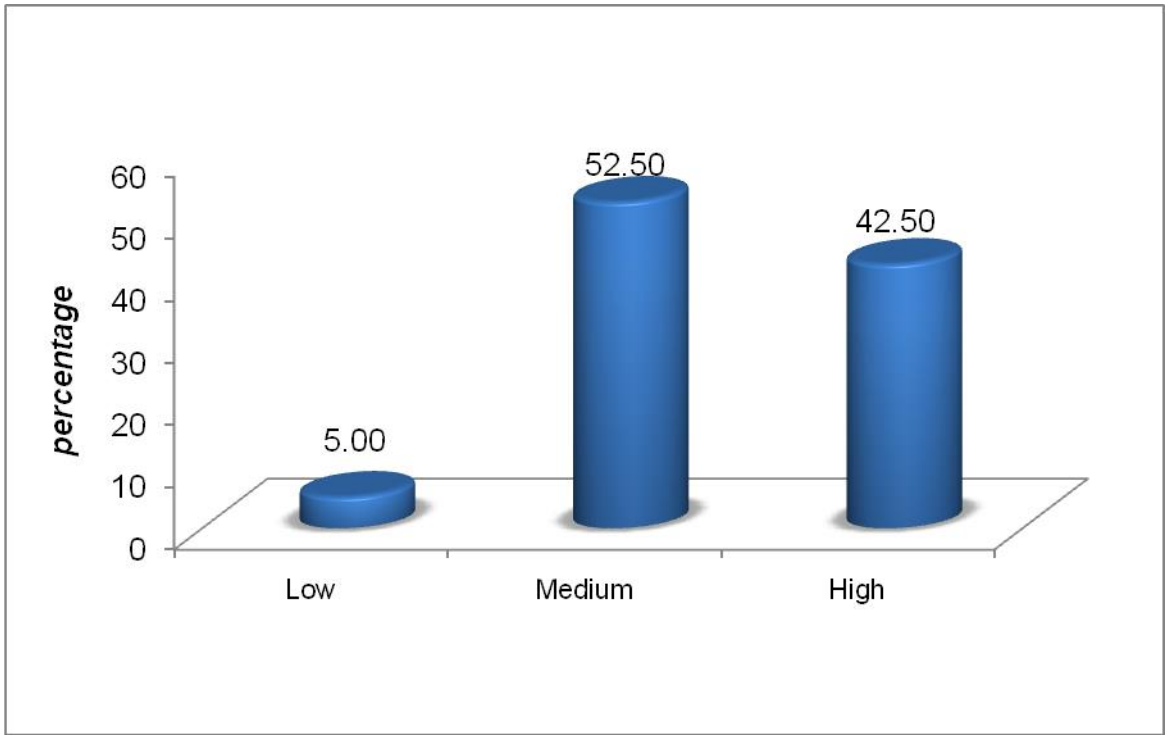

Fig. 15 Distribution of the respondents according to their adoption behaviour about PMFBY

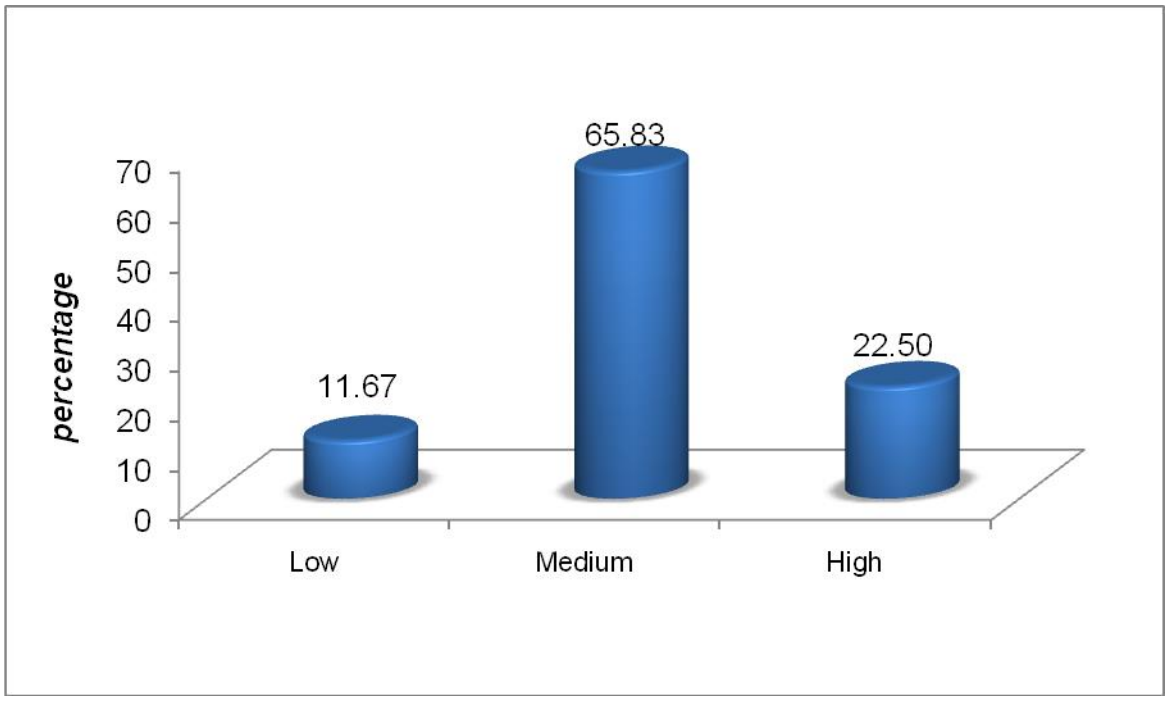

Fig. 16 Distribution of respondents according to their awareness index about PMFBY

Table 23. Distribution of respondents according sources of awareness frequency about Pradhan Mantri Fasal Bima Yojana

Sl. No.	Sources of awareness	Respondents (n=120)	
		Frequency	Per cent
a)	**Personal sources**		
1	Friends	86	71.67
2	Beneficiary farmers	59	49.17
3	Local leader	63	52.50
b)	**Group sources**		
1	Agricultural Officers	38	31.67
2	Banks	92	76.67
3	Private institute	40	33.33
c)	**Mass media**		
1	Radio	41	34.17
2	T.V.	64	53.33
3	Newspaper, Magazine	42	35.00
4	Agricultural Publication	18	15.00

In case of mass media of awareness 53.33 per cent of farmers were awererd about PMFBY through Television followed by newspaper, magazine (35.00 %), radio (34.17 %) and agricultural publication (15.00 %).

Table 24. Observed that awareness about Pradhan Mantri Fasal Bima Yojana found that the latest crop insurance scheme (80.00%), Crops notified for Kharif season (72.50%), Crops notified for Rabi season (65.83%), Type of proposals (compulsory/optional) (62.50%), Loaning period for loanee farmers for Kharif season on compulsory basis (April-July) (57.50%), Loaning period for loanee farmers for Rabi season on compulsory basis (October-December) (45.00%), Cut-off date for receipt of proposal of farmers/debit of premium from farmers account(Loanee and

non-loanee) 31st July in Kharif & 31st Dec. in Rabi (71.67%),Cut-off date for receipt of yield data after harvest (within one month) (58.33%), Processing, approval and payment of final claims (3 weeks from receipt of yield data) (37.50%).

Table 24. Distribution of awareness frequency of pertaining to Pradhan Mantri Fasal Bima Yojana

Sl. No.	Statement of awareness	Frequency	Per cent
1	The latest crop insurance scheme	96	80.00
2	Crops notified for Kharif season	87	72.50
3	Crops notified for Rabi season	79	65.83
4	Type of proposals (compulsory/ optional)	75	62.50
5	Loaning period for loanee farmers for Kharif season on compulsory basis (April-July)	69	57.50
6	Loaning period for loanee farmers for Rabi season on compulsory basis (October-December)	54	45.00
7	Cut-off date for receipt of proposal of farmers/debit of premium from farmers account(Loanee and non-loanee) 31st July in Kharif & 31st Dec. in Rabi	86	71.67
8	Cut-off date for receipt of yield data after harvest (within one month)	70	58.33
9	Processing, approval and payment of final claims (3 weeks from receipt of yield data)	45	37.50

The distribution of respondents according their awareness level about Pradhan Mantri Fasal Bima Yojana has been presented in Table 25.

Table 25 Distribution of respondents according awareness level about Pradhan Mantri Fasal Bima Yojana

Sl. No.	Awareness index	Respondents (n=120)	
		Frequency	Percentage
1	Low	14	11.67
2	Medium	79	65.83
3	High	27	22.50
	Total	**120**	**100.00**

It is observed from Table 25 that majority of respondents (65.83 %) had medium awareness about Pradhan Mantri Fasal Bima Yojana followed by 22.50 per cent respondents had high level and 11.67 per cent low awareness about PMFBY.

5.2.2 Interest:

Table 26. Distribution of respondents according interest frequency about Pradhan Mantri Fasal Bima Yojana

Sl. No.	Statement	Respondents (n=120)	
		Frequency	Per cent
1	Developed interest about PMFBY after discussion with friends/ neighbour	90	75.00
2	Developed interest about PMFBY after discussion with agricultural officer/Agencies	82	68.33
3	Developed interest about PMFBY after discussion with bank officer	84	70.00
4	Developed interest about PMFBY after discussion with local leader	44	36.67
5	Developed interest about PMFBY through various leaflet / Folder/ Pamphlet	13	10.84
6	Developed Interest about PMFBY through newspaper	26	21.67

It is observed from Table 26 that as regards Interest created the farmers, majority of respondents Developed interest about PMFBY after discussion with friends/ neighbour (75.00 %). Developed interest about PMFBY after discussion with bank officer (70.00 %), Developed interest about PMFBY after discussion with agricultural officer/Agencies (68.33 %), Developed interest about PMFBY after discussion with local leader (36.67 %), Developed Interest about PMFBY through newspaper (21.67 %), Developed interest about PMFBY through various leaflet / Folder/ Pamphlet (10.84 %).

The distribution of respondents according their interest created about Pradhan Mantri Fasal Bima Yojana has been presented in Table 27.

Table 27 Distribution of respondents according interest about Pradhan Mantri Fasal Bima Yojana

Sl. No.	Interest index	Respondents (n=120)	
		Frequency	Percentage
1	Low	17	14.17
2	Medium	64	53.33
3	High	39	32.50
	Total	**120**	**100.00**

It is observed from Table 27 that more than half of respondents (53.33%) medium level interest about Pradhan Mantri Fasal Bima Yojana followed by 32.50per cent respondents had high level and 17.00 per cent had low level interest of farmers about PMFBY.

5.2.3 Adoption

The distribution of respondents according their adoption of Pradhan Mantri Fasal Bima Yojana in soybean crop has been presented in Table 28

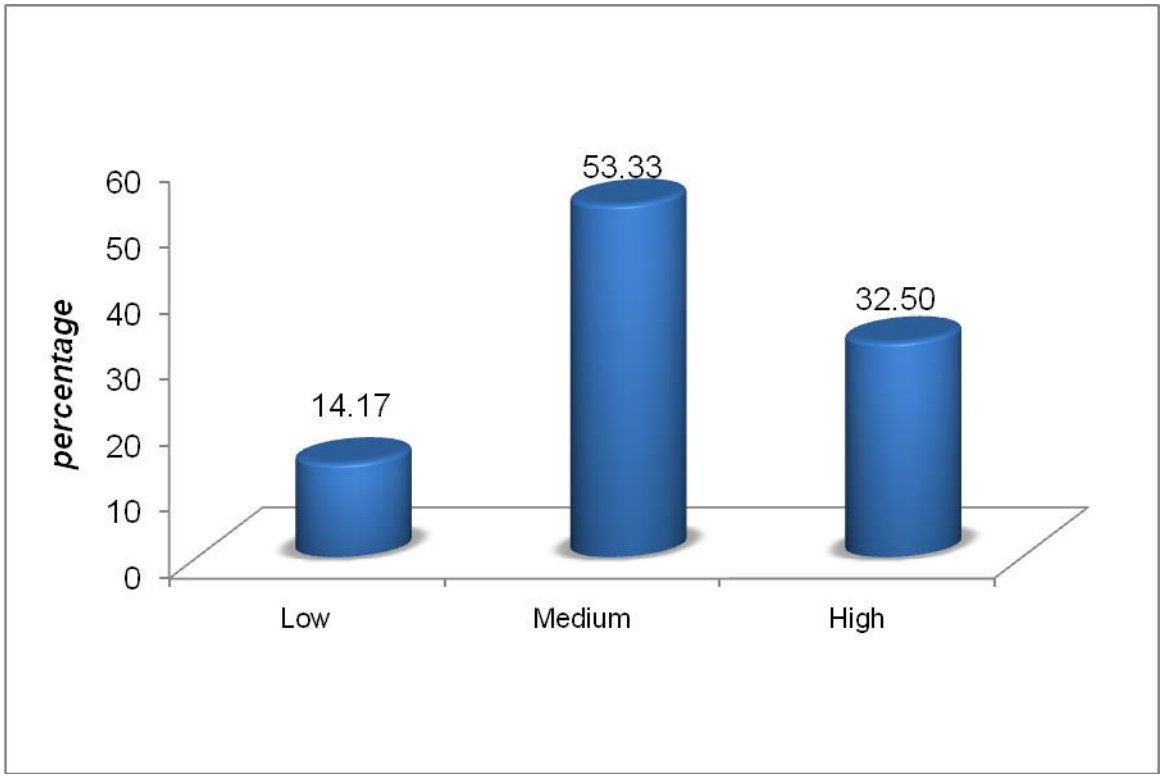

Fig. 17 Distribution of respondents according to their interest level about PMFBY

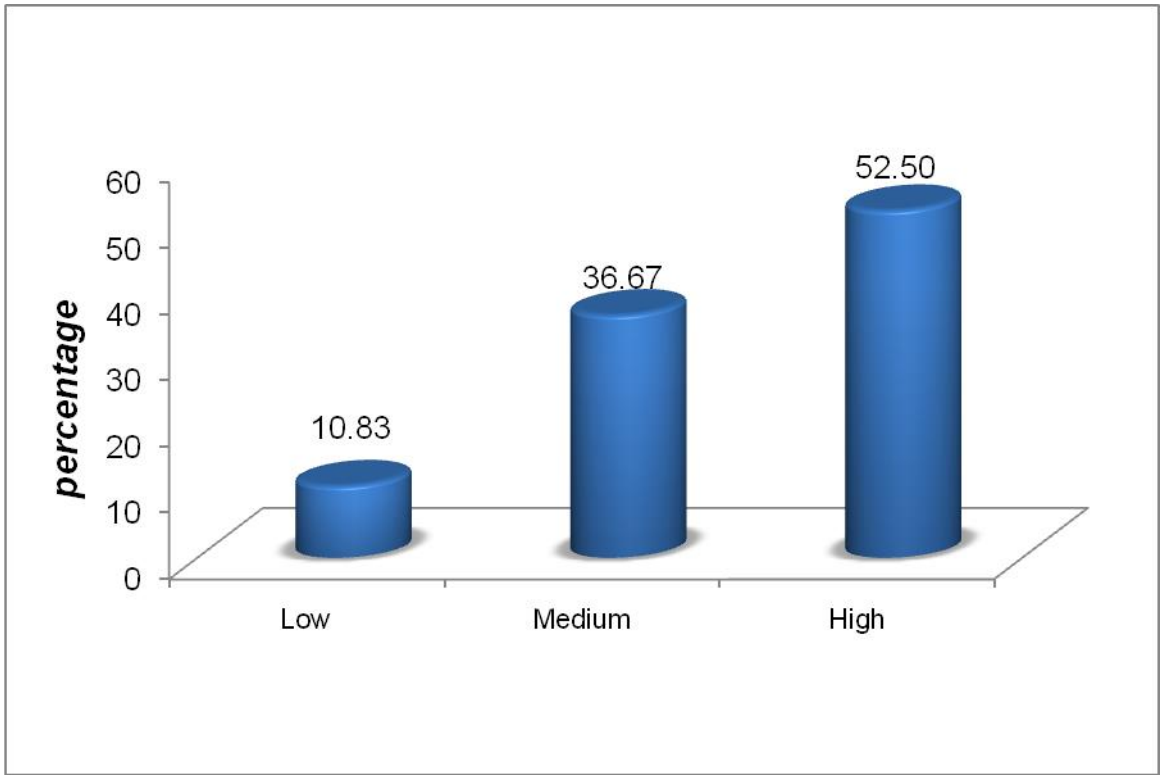

Fig. 18 Distribution of the respondents according to their adoption level about PMFBY

Table 28. Distribution of respondents according adoption level of Pradhan Mantri Fasal Bima Yojana

Sl. No.	Adoption index	Respondents (n=120)	
		Frequency	Percentage
1	Low	13	10.83
2	Medium	44	36.67
3	High	63	52.50
	Total	**120**	**100.00**

It is observed from Table 28 that more than half of respondents (52.50 %) high adoption of Pradhan Mantri Fasal Bima Yojana followed by 36.67 per cent respondents had medium level and 10.83 had low level adoption of farmers about PMFBY.

From the above findings, it can be concluded that, majority of the respondents were observed in high level of adoption

The findings of the present study were similar to the findings of Bhiseef *et al.* (2018) and Verma *et al.* (2018)

5.3 Relationship between socio-economic characteristics and Adoption behaviour

Correlation analysis was carried out to find out as to whether the selected characteristics had any association with adoption behaviour of farmers about Pradhan mantra Fasal Bima Yojana. The coefficients of correlation of the personal and socio-economic characters with adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana have been furnished in Table 29.

Table 29 Relationship between socio-economic characteristics and adoption behaviour

Sl. No.	Independent variables	Calculated 'r' value
1.	Age	0.09413^{NS}
2.	Education	0.21176*
3.	Land holding	0.15709^{NS}
4.	Occupation	-0.048^{NS}
5.	Annual income	0.05905^{NS}
6.	Farming experience	0.19685*
7.	Cropping pattern	0.19984*
8.	Source of information	0.33827**
9.	Innovativeness	0.19863*
10.	Risk orientation	0.27821**
11	Knowledge	0.25328*
12	Attitude	0.30003**

****** = Significant at 0.01 per cent level of significance

* = Significant at 0.05 per cent level of significance

NS =Non-Significant

It could be observed that from Table 29 that variable like age, land holding, occupation, and annual income found to be non-significant relationship with adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana.

It could be observed that from Table 29 that variable like education, farming experience, cropping pattern, innovativeness and knowledge to found positive and significant relationship with adoption behaviour of farmers about Pradhan Mantri Fasal Bima yojana.at 0.05 per cent probability.

It could be observed that from Table 29 that variable like Sources of information, Risk orientation and attitude to found positive and significant relationship with adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana at 0.01 per cent probability.

5.4 Constraints:-

In the present study constraints referred to problems or difficulties faced by the respondents in adoption of Pradhan mantra Fasal Bima Yojana. The relevant data in this regard has been depicted in Table 30.

Table 30 Distribution of respondents according to their constraints faced during the adoption of Pradhan Mantri Fasal Bima Yojana

Sl. No	Particulars	Respondents (n=120)	
		Frequency (%)	Rank
1	Banks far away from residence	37 (30.83)	VII
2	Unavailability of insurance agent at village level	82 (68.33)	I
3	Local government staff not popularizing scheme	54 (45.00)	V
4	Problem of improper reporting in case of losses	72 (60.00)	III
6	Delay in payment of insurance claims	63 (52.50)	IV
7	Rate of premium is very high	50 (41.67)	VI
8	How to measure/ assess loss	78 (65.00)	II

In Table 30 observed that majority of respondents constraint faced was 68.33 per cent Unavailability of insurance agent at village level followed by, How to measure/ assess loss (65.00 %) Problem of improper reporting in case of losses (60.00%),Delay in payment of insurance claims(52.50 %), Local government staff not popularizing scheme(45.00%) and Rate of premium is very high (41.67%).

5.6 Empirical model

Keeping in view, anticipated relation amongst independent and dependent variables actual result obtained after analysis of data an empirical model of relations was prepared and relationship has been depicted in Fig 19.

CHAPTER VI

SUMMARY AND CONCLUSIONS

This chapter deals with the summary of the whole study, major findings and their implications for future course of action and research.

The study was conducted on "Adoption Behaviour of farmers about Pradhan Mantri Fasal Bima Yojana". In this the sample consisted of 120 farmers of which socio-economic, communicational and psychological status was calculated as an effect of Pradhan Mantri Fasal Bima Yojana. The present study was conducted in randomly selected washim in Maharashtra State. In Washim district there are 6 talukas, out of which three taluka namely Washim, Risod and Malegaon were randomly selected on the basis of more number of farmers covered in Pradhan Mantri Fasal Bima Yojana.

From each of selected taluka, 4 villages were purposively selected from the list of villages covered in the crop insurance scheme. Thus, in total 12 villages were selected for the study. From all the selected villages 10 farmers from each villages were selected purposively and were treated them as respondents for present study. Hence, collectively 120 respondents were selected for the study.

6.1The present study was conducted with specific objectives.

1. To study the personal, socio-economic, communication and psychological characteristics of farmers
2. To study adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana
3. To study relationship between selected characteristics of farmers with their adoption behaviour about Pradhan Mantri Fasal Bima Yojana

4. To identify the constraints faced by farmers in the adoption of Pradhan Mantri Fasal Bima Yojana

6.2 Findings

The salient finding of the present study were summarized in succeeding paragraphs.

6.2.1 Distribution analysis

6.2.1.1 Personal, Socio-economic and psychological characteristics of the respondents

1. **Age:** more than half of the respondents i.e. 62.50 per cent belonged to middle age group, Thus, it is concluded that majority of respondents belonged to middle age category.
2. **Education:** Majority of the respondents i.e. 31.67 per cent educated up to High school level. Thus, it is concluded that majority of respondents educated upto high school level.
3. **Land holding:** Majority of the respondents i.e. 40.00 per cent possessed semi medium category of land holding up to 2.01 to 04.00 ha. It is concluded that maximum per cent of respondents were found semi medium land holding category.
4. **Occupation:** Majority the respondents i.e. 46.67 per cent occupation was agriculture (Farming). Thus, it is concluded that maximum per cent of respondents occupation was agriculture (farming).
5. **Annual income:** Majority the respondents i.e. 35.00 per cent of respondents were annual income had Rs 100001/- to 150000.
6. **Farming experience:** More than half the respondents i.e. 51.67 per cent had medium farming experience. Thus, it is concluded that majority per cent of respondents have medium farming experience.

7. **Cropping pattern:** More respondents i.e. 83.33 per cent had followed Kharif season crop. Thus, it is concluded that majority per cent of respondents had Kharif season.

8. **Source of information:** Majority, i.e. 72.50 per cent of the respondents had medium level of sources of information. A considerable per cent of respondents were found in medium category of sources of information.

9. **Innovativeness:** Majority, i.e. 64.17 per cent of the respondents had medium innovativeness. A considerable per cent of respondents were found in medium category of innovativeness.

10. **Risk orientation:** Majority, i.e. 67.50 per cent of the respondents had medium level of risk orientation. Thus, it is concluded that maximum numbers of respondents had medium level of risk orientation.

11. **Knowledge:** Majority, i.e. 72.50 per cent of the respondents had medium level of knowledge about Pradhan Mantri Fasal Bima Yojana. Thus, it is concluded that maximum numbers of respondents had had medium level of knowledge.

12. **Attitude:** Majority i.e. 65.83% of the respondents belongs to moderately level of attitude category.

6.2.1.2 Adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana

1. Adoption behaviour;

Majority of respondents 52.50 per cent had medium adoption behaviour about Pradhan Mantri Fasal Bima Yojana. It is concluded that maximum numbers of respondents had medium level of adoption behaviour.

1.1 Awareness:

Majority of respondents 65.83 per cent had medium level of awareness about Pradhan Mantri Fasal Bima Yojana. It is concluded that maximum numbers of respondents had medium level of awareness.

1.2 Interest:

Majority of respondents 53.33 per cent had medium level interest about Pradhan Mantri Fasal Bima Yojana.

1.3 Adoption

Majority of respondents 52.50 per cent high adoption of Pradhan Mantri Fasal Bima Yojana on soybean crop.

6.3 Co-relation between adoption behaviour and Personal, Socio-economic, communicational and psychological characteristics (Correlation coefficients)

Education, farming experience, cropping pattern, innovativeness and knowledge to found positive and significant relationship with adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana.at 0.05 per cent and Sources of information, risk orientation and attitude to found positive and significant relationship with adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana.at 0.01 per cent probability**.**

6.4 Constraints faced by the farmer's adoption of Pradhan Mantri Fasal Bima Yojana

Majority of respondents constraint faced was 68.33 per cent Unavailability of insurance agent at village level followed by, How to measure/ assess loss (65.00%) Problem of improper reporting in case of losses (60.00%), Delay in payment of insurance claims (52.50%), Local government staff not popularizing scheme (45.00%) and Rate of premium is very high (41.67%).

CHAPTER VII

IMPLICATIONS

Implication emanated from the findings of the present study, “Adoption behaviour of farmers about Pradhan Mantri Fasal Bima Yojana” are reported in this section .The implication are presented into two parts. The first is related with the implication for action, while the second part deals with implications for further research work. Based on the findings of the present study the following suggestions in the forms of implications are offered.

7.1 Implication of study:

1. The majority of the Farmers belong to middle and high school education. Generally the villagers are having the educational facility upto primary and secondary school level and for getting higher studies one has to go to cities which rise different problems. The government should start higher and qualitative education facilities in villages and this scheme provide for high education farmers. This will help to adoption behaviour of Pradhan Mantri Fasal Bima Yojana.

2. General picture with respect to knowledge regarding Pradhan Mantri Fasal Bima Yojana by the respondents was medium level. This finding suggested that the State Department of Agriculture and Crop Insurance Provider Companies should establish single window system to provide the knowledge regarding Pradhan Mantri Fasal Bima Yojana to the respondents. This will help to get easy access to the information about Pradhan Mantri Fasal Bima Yojana.

3. It was found that majority of the respondent farmers showed moderately favourable attitude toward Pradhan Mantri Fasal Bima Yojana. Govt. should simplify the procedure of recording the damage caused by calamities and also provide the support immediately to get insured amount.

7.2 Implication for future research work:

1. The present study was conducted in Washim district of Maharashtra with limited taluka as well as limited sample size. In order to derive wider generalizations a study could be conducted with more numbers of taluka and large sample size covering more area.

2. The studies on various locations may be conducted for generalization of findings on wide range is possible.

3. It will be better if more independents variables could be added by the future research worker to the list of variables already studied in current investigation.

4. Similar critical study can also be undertaken in different areas as to verify of results.

CHAPTER VIII

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VITA

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Sl. No.	Name of Degrees awarded	Year in which obtained	Division/ Class	Name of awarding University	Subjects
1.	B.Sc. (Agriculture)	2017	First Class	Jodhpur agriculture university	Agriculture and allied subjects

6. Article published (if any) : A. Doubling of farmers income till 2022
   B. Importance of Arid region in India
7. Fellowship : PGS (M.Sc Scholar) fellowship
7. Field of Interest (in which you desire to work) : Social Worker

Place: Akola

Date: / /2019

Signature of Student

APPENDIX

INTERVIEW SCHEDULE

Tittle of the Research work: **Adoption Behaviour of Farmers' about Pradhan Mantri Fasal Bima Yojana**

Name of the Researcher: **Sunil Kumar Meena,** M.Sc (Agri), || Year Department of Extension Education, Dr. PDKV, Akola

PART-I

I. General information

Name of farmer……

Village…….Taluka……District…….

II. Personal, socio-economic, communication and psychological characteristics

1. Age of farmers; ……..Years

2. Education: ……std

3. Land Holding: a) Rainfed :…….ha

b) Irrigated:…….. ha

c) Total : ……ha

4. Occupation :

Sl.No.	Occupation	
1	Agriculture + labour	
2	Agriculture (Farming)	
3	Agriculture + Allied Occupation (Goat farming/Poultry /Apiculture /Sericulture)	
4	Agriculture + Business (Professional / Non-professional)	
5	Agriculture + Service (Job with monthly salary/pension)	

5. Annual Income Rs.……

6. Farming Experience: ……..Years

7. Cropping Pattern:

Sl. No.	Cropping pattern	
1	Rabi	
2	Kharif	
3	Summer	
4	Perennial	

8. Sources of Information:

Sl. No.	Sources Of Information			
		Always	**Sometimes**	**Never**
A.	**Localized Sources**			
1)	Progressive farmers			
2)	Local Leader			
3)	Friends			
B.	**Banks**			
1)	Nationalized Bank			
2)	District Central Co-operative bank			
3)	Gramin Bank			
4)	Service Co-operative			
C.	**Institutional Sources**			
1)	Gramsevak			
2)	Taluka Agricultural Officers			
3)	Block development Officer			
4)	Agriculture Officer (AO)			
5)	Agricultural Extension Officer			
6)	Agril. Assistant			
D.	**Mass Media**			
1)	Radio			
2)	T.V.			
3)	Newspaper			
4)	Agriculture Publication			

5)	Internet			
6)	Mobile SMS / voice message			
7)	Other			

9. Innovativeness

Sl. No.	Statement	Always	Sometimes	Never
1	I feel restless till I take part in new agricultural Development Scheme, I have heard about			
2	They talk of many Agricultural Development scheme these days but who knows they are better one then old			
3	After all our forefather were wise in their old scheme and I did see any reason for changing these old scheme			
4	Often new Agricultural Development Scheme are not successful, If they are promising, I would like to participate them.			
5	From time to time I have heard if several new development schemes and I have participated in them in last few years.			
6	Somehow I believe that the traditional Agricultural Scheme are best.			

10. Risk Preference

Sl no.	Statement	Agree	Undecided	Disagree
1	A farmer should rather take more of a chance in making a big profit than to be contended with a smaller, but less risky profit.			
2	A farmer who is willing to take greater risks than the average farmer, usually do better financially.			
3	It is a good for farmer to take risks when he knows his chance to			

	success is fairly high.			
4	Trying an entirely new method in farming by a farmer involves risk, but it is worth doing it.			
5	A farmer should grow large number of crop to avoid greater risk involved in growing one or two crops.			
6	It is better for a farmer not to try new farming method unless most other farmers have used them with success.			

III. Intervening variable

1. Knowledge of farmers regarding PMFBY

Sl. No.	**Statement**	**Answer**	
		Yes (1)	**No (0)**
1.	Do you know about PMFBY		
2.	Do you know about Prime objective of PMBFY is to provide financial support due to crop loss		
3	Do you know about Risk covered are natural fire / lighting / storm / cyclone / flood / drought		
4.	Do you know about Loanee farmers are compulsory under PMBFY		
5.	Do you know about Premium rate of soybean crop		
6.	Do you know information covered under the scheme		
7	Do you know about Premium covered for small / marginal farmers 75 per cent and other farmers 50 per cent		
8.	Do you know this scheme Unit of insurance is area approach		
9.	Do you know Documents required for PMFBY		
10.	Do you know about Time period of getting of claim within is 3 months or above		
11.	Do you know about Crop can be get insured through financing institution / insurance agent		
12.	Do you know about In case of crop loss farmers can report to concerned patwari / bank is within in 72 hr		

2. Attitude towards PMFBY

Sl. No.	Statement	Agree	Undecided	Disagree
1	Crop insurance is not compulsory.			
2	Crop insurance help me at the time of repayment of losses.			
3	Insurance make it easier to obtain crop loan from bank.			
4	Paying crop insurance is stressful.			
5	Insurer exploit the farmers with high premium.			
6	Crop insurance protect the farmer with fluctuation of production in future.			
7	Crop insurance protect the farmers from risk equally.			
8	Govt. give preference to farmers for giving within the expected time.			
9	Private give preference to farmers for giving within the expected time.			
10	Crop insurance assumed income stability of the farmer.			
11	All insurance claims are provided within the expected time.			
12	I feel the govt. does not give help.			
13	Crop insurance does not compensate farmers fairly.			
14	Crop insurance saves me from risk. So I will continue with the programme.			
15	I am satisfied with the provider of insurance services			

PART-B

Dependent variable

Adoption behaviour

1. Awareness

A. Sources of Awareness

Through which source you have exposed to PMFBY

Sl. No.	**Sources of awareness**	**Aware**	**Not aware**
a)	**Personal sources**		
I.	Friends		
II.	Beneficiary farmers		
III.	Local leader		
b)	**Group sources**		
I.	Agricultural Officers		
II.	Banks		
III.	Private institute		
c)	**Mass media**		
I.	Radio		
II.	T.V.		
III.	Newspaper, Magazine		
IV.	Agricultural Publication		

B. Awareness about Pradhan Mantri Fasal Bima Yojana

Sl. No.	Statement of awareness	Yes	No
1	The latest crop insurance scheme		
2	Crops notified for Kharif season		

3	Crops notified for Rabi season		
4	Type of proposals (compulsory/optional)		
5	Loaning period for loanee farmers for Kharif season on compulsory basis (April-July)		
6	Loaning period for loanee farmers for Rabi season on compulsory basis (October-December)		
7	Cut-off date for receipt of proposal of farmers/debit of premium from farmers account(Loanee and non-loanee) 31st July in Kharif & 31st Dec. in Rabi		
8	Cut-off date for receipt of yield data after harvest (within one month)		
9	Processing, approval and payment of final claims (3 weeks from receipt of yield data)		

2. Interest

Sl. No.	**Statement**	**Interest created**	**Interest not created**
1	Developed interest about PMFBY after discussion with friends/ neighbor		
2	Developed interest about PMFBY after discussion with agricultural officer/Agencies		
3	Developed interest about PMFBY after discussion with bank officer		
4	Developed interest about PMFBY after discussion with local leader		
5	Developed interest about PMFBY through various leaflet / Folder/ Pamphlet		
6	Developed Interest about PMFBY through newspaper		

3. Adoption A. Total Area of soybean crop ……..ha

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B. Insured area of soybean crop……..ha

PART-C

Constraints faced by the farmers

Sl.No	Constraints		
		Yes	No
1.			
2.			
3.			
4.			
5.			
6.			
7.			