



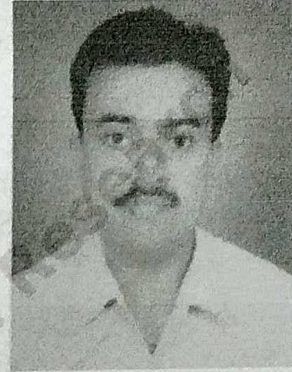
## INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH Major/Minor Projects

Apply under

Minor

Board Discipline

Other allied Social Science disciplines (Library Science, Social Work, Media Studies, Modern Social History, Health Studies, Gender Studies and Environmental Studies, Diaspora Studies, Area Studies, Sanskrit-Society & Culture, etc.) to promote interdisciplinary and multidisciplinary research



### I. Personal Information

1. Name of the Applicant

Ratan Ranuji Chaudhari

2. Address for Communication :

'Tulsai' Dafe layout, Karla Road, Swagat colony,  
Pipri Tq. Dist. Wardha-442001  
9822333179  
ratanextn@gmail.com  
Maharashtra  
442001

3. Permanent Address :

Same as Communication Address

4. Date of Birth (DD/MM/YYYY) :

10/03/1977, Age: 44 years 5

5(a). Mother's Name :

Tulsabai

5(b). Mobile Number :

9822333179

5(c). Email Id :

ratanrchaudhari@gmail.com

6(a). Father's Name :

Ranuji

6(b). Mobile Number :

6(c). Email Id :



7. Employer Details :	Designation: Assistant Professor Name: Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya Address: Arvi Road, At Post Pipri Tq. Dist. Wardha Mobile Number: 715223051 Email: sjgs_pw@rediffmail.com Website: <a href="http://sjgsm.shikshamandal.org/">http://sjgsm.shikshamandal.org/</a>
9. Indicate your category :	Category:OBC, Gender: Male, Person with Benchmark Disability: No
10. Whether received any financial assistance from ICSSR	No
11. Whether received any assistance/project from any other institution e.g. UGC, ICAR, CSIR, ICPR, ICHR, etc. :	No

## II. Educational Qualifications

Name of Degree	Name of the University	Year of Passing	% of marks	Disciplines
Master's	Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (Maharashtra)	2003	76.6	Extension Education
M Phil				
Ph D.	University of Agricultural Sciences, Dharwad (Karnataka)	2007	91.8	Agricultural Extension Education
Post-Doctoral				

## III-Research Experience of the Project Director

	Number	Brief Detail (Title and supporting Institution)
Projects Completed (Maximum 5)	0	nil
Ongoing projects, if any (with completion date)	0	nil
Fellowships	0	nil
Ph.D Guidance	0	nil
M.Phil Guidance	0	nil

**Papers in Journals, Edited Books/Reports Published, etc.(Details of up to best 5) :**



Sl No.	Title of the Article	Name of the Journal, Place of Publication and Frequency	Month, Year and Volume of Publication with Page Nos.	Is the Journal Scopus Indexed and UGC CARE list? (Yes/No)
1.	A scale for measurement of entrepreneurial behaviour of dairy farmers	Karnataka Journal of Agricultural Sciences, Dharwad, Quarterly Maharashtra	October-December, 2007, 20(4), 792-796	No
2.	Factors influencing credit borrowing behaviour of farmers	Journal of Extension Education, Dapoli, Yearly	2003, 22(2), 57-59	No
3.	credit utilization and repayment by members of primary agricultural credit society	PKV Research Journal, Akola, Bi-annual	January, 2008, 32(1), 77-78	No
4.	adoption of vermicompost technology by farmers	PKV Research Journal, Akola, Bi-annual	January, 2008, 32(1), 79-81	No
5.	Determinants of entrepreneurial behaviour of dairy farmers	PKV Research Journal, Akola, Bi-annual	January, 2012, 36(1), 113-116	No
6.				
7.				
8.				
9.				
10.				

**Participation in Research Projects (also with capacity Best 3).**

Participated survey work of extension research project entitled 'Adoption and uptake of Bio-tech Cotton in India among farmers in selected growing villages by Indian Society for Cotton Improvement, Nagpur Chapter

**Any other important Academic Achievement (approx. 100 words)**

1) Received University level best NSS Programme Officer Award in 2015-16, (2) Best paper presentation award in National seminar received 2021

**IV Affiliation Details**

Name of the affiliating institution



Shrikrishnadas Jajoo Grameen Seva Mahavidyalaya, Pipri-Wardha

Postal address of affiliating institution :	Arvi Road, At post Pipri Tq. Dist. Wardha , Maharashtra , 442001
Phone Number	9421723833
Email ID	sjgs_pw@rediffmail.com
Website	<a href="http://sjgsm.shikshamandal.org/">http://sjgsm.shikshamandal.org/</a>
Type of affiliating institution :	Private Institutions with UGC 12(b) status

#### V Details of Project Co-Directors (if any, Maximum 3)

Name and Address with contact details Mobile No/email ID	Present Position	Institution
nil	nil	nil

#### VI Project Proposal

##### (i) Title of the Project Proposal :

Information Seeking Behaviour of Cotton Growers and their Adoption level of Integrated Pest Management Practices for Sustainable development (with special reference to Wardha district)

##### (ii) Abstract (approx. 200 words)

The present research proposal prepared on "Information Seeking Behaviour of Cotton Growers and their Adoption level of Integrated Pest Management Practices for Sustainable development (with special reference to Wardha district)" with specific objectives as to study the personal, socio-economic and psychological characteristics of cotton growers, to analyze the Information Seeking Behaviour of cotton growers, to study the adoption level of Integrated Pest Management Practices of cotton growers for sustainable development, to determine the factors influencing extent of adoption of Integrated Pest Management Practices of cotton growers for sustainable development, to identify the constraints faced by cotton growers in adoption of Integrated Pest Management Practices, to elicit the suggestions of cotton growers to overcome the constraints faced during adoption of Integrated Pest Management Practices and to elicit the suggestions of experts and extension workers on dissemination of IPM to the farmers. The Wardha district is purposively selected based on larger area under cotton cultivation in Nagpur division. Out of eight talukas, four talukas will be selected as per larger area under cotton cultivation and 30 farmers trained on IPM and 30 farmers untrained on IPM from each taluka will be selected with simple random sampling method to constitute the total sample size of 240 cotton growers. The data will be collected with the help of structured interview schedule. Data will be analysed by using descriptive and inferential statistics such as mean, standard deviation, correlation and regression analysis. The findings will be helpful for policy makers, research centres, agriculture universities, NGOs, extension workers to decide their strategies on integrated approach of IPM for sustainable development. The findings will provide solutions to the farming community on proper approach to reduce use of pesticide, reducing cost on chemical spraying, eco-friendly practices, conserving beneficial insects for sustainable development.



**(iii) Introduction of the Proposed Study (approx. 400 words)**

Farming community plays vital role in economic growth of the nation and farming is major component of rural development. Under farming, cotton is one of the major cash generating crop. According to the Ministry of Textile ( Sept., 2019), cotton plays a major role in sustaining the livelihood of an estimated 5.8 million cotton farmers and 40- 50 million people engaged in related activities such as cotton processing and trade. Vennila S. et al., stated that cotton occupies 5% of the total cropped area distributed among three different agroclimatic zones in India, and consumes 55% pesticide share accounting for 40% of total production costs. There is major pesticide use in cotton production for pest control but it affects human health, soil health and environment. Therefore, integrated pest management (IPM) practices are very important approach for sustainable development and to reduce the pesticide application. This is the integrated approach and it has been accepted by international community for sustainable agriculture and maintaining better agro-eco-system. According to Dhawan, et al., (2009), the adoption of IPM strategies resulted in significantly reduced pest incidence (32-75%), reduced plant protection and total input costs (17-34 % and 15-21%, respectively) and an increase in net profit (54-88%) in addition to conservation of natural enemies (0.8- 1.0 natural enemies/ plant in IPM over 0.4-0.7/ plant in non-IPM villages). Keeping this in view, there is need to study the adoption level of cotton growers regarding IPM practices, their information seeking behaviour on IPM practices for sustainable development, identifying major influencing factors in adoption of IPM practices. Wardha district has long history of cotton cultivation and cotton is one of the major cash crop of the district in Nagpur division. It is very relevant to conduct the study of Wardha district to propose the definite strategies to promote the sustainable integrated approach of IPM practices of cotton crop and also propose the solutions over the constraints faced by cotton growers in adoption of IPM for sustainable development. It will be helpful in reducing cost on pesticide application, health beneficial and environment friendly strategies and also helpful in conserving natural enemies.

**(iv) Major Research Works Reviewed: 1) International and 2) National. Not less than 15 to 20 important works (approx. 400 words) :**



Dattatri, (2014) found that IPM practices were superior in controlling aphids, mealy bug and Spodoptera as the incidence of these pests was significantly lower in the production of cotton. The activity of beneficial insects also improved in IPM fields when compared with non IPM fields. Seed cotton yield obtained was 16.6% higher in IPM fields than non IPM fields. Higher net returns (Rs. 54217/ha) and B:C ratio 2.69 registered in IPM fields compared to non IPM fields (Rs.40488/ha and 2.15, respectively) Ghanghas, et al., (2020) observed that farmers' knowledge of AESA based IPM practices for control of insect-pests was moderate to high due to cultural practices followed by chemical control measures. Whereas, they had less knowledge/no knowledge of use of bio agents or botanical measures (Chrysoperla grubs, NPV, Trichogramma etc.) for control of pests and diseases and their alternate host plants as well as trap crops. While, use of bio control measures, no removal of alternate hosts, management of trap crops, seed treatment with Trichoderma as well insecticides for sucking pests, crushing of shoot borer larvae, destruction of disease affected plants and use of pheromone traps as well yellow sticky traps for monitoring of pests were not adopted or very low in adoption. It showed that farmers had no comprehensive knowledge of AESA based IPM practices for its proper sequential adoption in the field. So more farmer field schools should be organized by extension personnel to prove the worth of low cost and eco-friendly sustainable technology in order to minimize the climate changes effects for enhancement of production, productivity and profitability of commercial crop in the region. Khajuria et al., (2020) stated that the constraints such as increased infestation of sucking insect pests viz., aphid (*Aphis gossypii* Glover), leaf hopper (*Amrasca biguttula biguttula* Ishida) and whitefly (*Bemisia tabaci* Gennadius) were the most important. IPM practice consisting of one spray application of *Beauveria bassiana* (2 x 10<sup>8</sup> cfu) @ 4 g /l water, two spray applications of thiamethoxam 25 WG @ 0.01 per cent (0.4 g /l water) and one spray application of acephate 75 SP @ 0.075 per cent (1 g /l water) following threshold level (5 sucking pests /leaf) was found effective and economical for the management of sucking insect pests without any adverse effect on the natural enemies in Bt cotton. The application of this practice also resulted higher seed cotton yield as compared to farmers practice. IPM practices were found effective in comparison to farmer practice of indiscriminate use of pesticides. The integrated pest management strategies needs to be adopted even in Bt cotton to have higher yield and better benefit cost ratios. IPM strategy can be recommended to the farmers for management of sucking pests effectively and economically in cotton. Kiruthika (2013) found significant gap between awareness and adoption of IPM practices for different crops. The awareness index was 12.12, the adoption index was only 8.52, which shows only that 75 percent of the technology generated was adopted in the field. Mahendrakar et al., (2018) found that majority (61.67%) of cotton growers belonged to medium adoption category, followed by high adoption category (31.67%) and then low adoption category (15.83%), whereas the major constraints faced by the cotton growers were difficulty in controlling pests and diseases, lack of marketing facilities, less knowledge about BT cotton production practices, lack of knowledge about fund availability from the government. Neethi & Sailaja, (2013) observed that there was significant relationship between farm size, farming experience, achievement motivation, information seeking behaviour with extent of adoption of cotton practices by farmers.

**(v) Identification of Research Gap (approx. 300 words) :**



Green revolution was urgent need of the sixties but later on the application of pesticides for different crops in general and cotton crop in specific increased drastically to control the different pests. It adversely affected human health, crop production, soil health and environment. According to Division of Medical Toxicology in India (Report, 2000), more than a thousand cases of pesticide poisoning were recorded between 1999 and 2000 in India. Francesca Mancini (2006) stated that IPM adoption reduced pesticide use by 78% without affecting crop productivity, suggesting that a large part of the current use of pesticides is unnecessary. As per above discussion, it is clear that use of pesticide is increased drastically, population of beneficial insects reduced on large extent, cost on crop cultivation increased with increase in harmful effects on human as well as on our environment. Hence, integrated sustainable approach i.e. IPM plays important role in reducing the use of pesticide with increase in beneficial insects. Thus, there is need to understand adoption level of farmers of IPM practices and to assess information seeking behaviour of farmers. Hence, adoption level and pattern of information seeking is the research gap need to study. The present study will bridge this research gap with concrete solutions for special reference to Wardha district.

**(vi) Objectives of the Proposed Study (approx. 100-150 words):**

Objectives are laid down for giving proper direction to the study and keep our primary focus on finding out some concrete and feasible solutions to the research problem hence, the following objectives have been formulated: 1. To study the personal, socio-economic and psychological characteristics of cotton growers 2. To analyze the Information Seeking Behaviour of cotton growers 3. To study the adoption level of Integrated Pest Management Practices of cotton growers for sustainable development 4. To determine the factors influencing extent of adoption of Integrated Pest Management Practices of cotton growers for sustainable development 5. To identify the constraints faced by cotton growers in adoption of Integrated Pest Management Practices 6. To elicit the suggestions of cotton growers to overcome the constraints faced during adoption of Integrated Pest Management Practices 7. To elicit the suggestions of experts and extension workers on dissemination of IPM to the farmers

**(vii) Major Research Question/Hypotheses (approx. 150-200 words):**

The major research questions address selected topics in the domains of adoption level of IPM, information seeking behaviour and factors influencing adoption and – as a generic question – the methods that might be used to carry out and analyse the results of such studies. Specifically, the questions are: - - What is the adoption level of cotton farmers of IPM ?, - What is the Information Seeking Behaviour of cotton growers ?, - What are the factors influencing adoption of IPM ? - What type of relationship exist between personal, socio-economic and psychological characteristics of cotton growers and their adoption level ? - What are the constraints in adoption of IPM ?. Hence, the null hypothesis formulated for the present study is as : There is no relationship between personal, socio-economic and psychological characteristics of cotton growers and their adoption level of IPM.

**(viii) Proposed methodology for the research work (approx. 400 words)**



The present study will be conducted in Wardha district of Maharashtra state which is purposively selected based on higher area under cotton crop in Nagpur division. There are eight talukas in Wardha district namely Wardha, Arvi, Samudrapur, Deoli, Hinganghat, Karanja, Ashti and Seloo. Out of eight talukas of Wardha district, four talukas will be selected based on area under cotton in the district. Thirty trained cotton growers on IPM practices (experimental group with IPM intervention) and 30 untrained cotton growers (control group without IPM intervention) i.e. total 60 cotton growers from each taluka will be selected by simple random method. Hence, total 240 cotton growers from four talukas constitute the total sample size of the project. Agriculture experts and extension workers from same talukas will interviewed on dissemination of IPM. The ex-post facto research design will be used for present investigation. The structured interview schedule will be developed according the objectives set for the study. The data will be collected with the help of pre-tested structured schedule by conducting personal interview method. Data will be analysed by using descriptive and inferential statistics such as mean, standard deviation, correlation and regression analysis.

**ix) Innovation/Path-breaking aspects of the Proposed Research**

The higher use of pesticide on cotton crop is very crucial issue in the present context. It affects human health, water, soil health, environment, etc. There is urgent need of proper directions and strategies which will help to reduce the use of pesticide. Hence, the present research work includes different innovative aspects such as farmers psychological characteristics as innovativeness, scientific orientation, achievement motivation, organizational participation, extension contact, information seeking behaviour, adoption level of IPM and factors influencing adoption level, constraints in adoption, etc., which are vital important to decide the strategies for sustainable development.

**(x) Proposed Outcome such as papers in journals, edited book/(s), book, policy papers, document etc. with proposed timeline and place of publications (300 words)**

The present research work has very good relevance to the present context for sustainable development. Hence, the research papers will be published in UGC CARE list journals on different aspects of research project such as innovativeness and scientific orientation of cotton growers, information seeking behaviour, adoption level of cotton growers of IPM for sustainable development, factors influencing adoption level, constraints faced by the cotton growers etc., with due credit of ICSSR research funding support.

**(xi) Any new data to be generated where data deficiency is felt (100-150 words) :**

Cotton is one of the major cash crop of Wardha district with major area under cotton cultivation. Hence, more number of cotton growing farmers available as respondents for the present research project. The data will be helpful for determining strategies on integrated approach for sustainable development.

**(xii) Relevance of the proposed study for policy making :**



Quarter	Milestone
I	The information of study area and list of respondents will be collected from concern department. Interview schedule will be developed. Process of Appointment of research staff will be completed in first quarter and joining of research staff will be in the last month of first quarter. So pre-testing of schedule will be done in last month of first quarter.
II	Actual data collection i.e. survey work will be done in this quarter with the help of research staff. Discussion with experts and extension workers will held during this period.
III	Data processing, Data tabulation, data analysis work will done in this quarter.
IV	Final Project report writing work will be completed in quarter. The final project report will be submitted to ICSSR. Research articles will be prepared with permission of ICSSR and due credit will be express in the article for research funding support of ICSSR.

(xv) Budget and Duration (please see Guidelines at 5.3 for proportionate Limit of a head)

Total Grant expected under the scheme (In Rs.)	Duration Proposed (months)
485000	12

(xvi) Proposed budget of the study under expenditure heads with justification

Heads of Expenditure	Number	Months	Rate	Amount
1. Research Staff	02			219000
1(a). Research Associate				
1(b). Research Assistant	01	09	16000	144000
1(c). Field Investigator	01	05	15000	75000
2. Field work		03		170000
3. Equipment and study material				52000
4. Contingency				24000
Total				465000
5. Publication of report - approx. 5-7% (The allocation for publication amount will be retained by the ICSSR for publication of the final report if it is found to be high quality by the expert/experts appointed by the ICSSR)				20000
Grand Total				485000



The way of rural development goes through agriculture development and in agriculture, cotton cultivation covers major area. There is extensive use of pesticide in cotton production. It affects directly farming community, indirectly remaining society, water sources, soil health, environment and hence, integrated approach of IPM is one of the important strategy to reduce pesticide application to the larger extent for sustainable development. The findings of the research project might be helpful in formulation of new policies for limiting pesticide application with larger use of integrated approach i.e. IPM for sustainable development of Wardha district and this might be explore on other area also. The department of agriculture, research stations, extension wing of Agriculture Universities and NGOs can plan their training programmes on IPM and also they can decide the concrete strategies on dissemination policy on IPM practices of cotton crop for sustainable development.

**(xiii) Relevance of the proposed study for society (approx. 200 words) :**

As the farming community plays important role in Nation's economic development but in the present context, farmers are facing different constraints in cotton productions such as harmful effects of pesticide application, higher cost of spraying chemicals, lower productivity, increase in pest infestation, low return on crop production, debts etc. Therefore, there is need to avail scientific information to the farming community on reducing the use of pesticide, adoption status of integrated approach of IPM, influencing characteristics of farmers in adoption of IPM, information seeking behaviour and farmers' constraints in cotton production. The findings of the study will be helpful to the field level extension workers, private players, NGOs, Agro-service centers to understand the adoption level of IPM, major influencing factors of adoption of IPM, what type of information seeking by the farmers ?, constraints of farmers, etc. Hence, they can decide their knowledge dissemination strategies as well as agriculture services for the benefits of farming community. Farming community may get solutions for their constraints as well as ways to reduce cost on use of pesticides based on findings. Ultimately integrated approach will be helpful for farming community as well as other society for sustainable development.

**(xiv) Milestones set for each successive quarter of the study**



**Justification of different heads of budget (write in 30 words each)**

**1. Research Staff**

The project has large sample size, personal interviews and time limit. Hence, Research staff needed in the schedule preparation, visits during survey, classification, tabulation and analysis of data.

**2. Field work**

The field work will be completed in 80 days so Rs. 2,100 x 80 = Rs.1,68,000 and 2000/- will be for consultancy charges. total 170000.00 needed.

**3. Equipment and study material**

External hard disk-1 TB, pen drive-16 GB, Multifunctional Laser printer needed to store project data, photographs and printing purpose. Its cost is 25000/- Books-27000/- to develop insight.

**Declaration**

I hereby declare that:

- I am not a defaulter of any previous ICSSR grant.
- I have not availed ICSSR pay protection scheme previously.
- I have neither been subjected to any disciplinary action nor found guilty of any criminal offence in my career.
- The Research Proposal and its contents are entirely original and as per the standard practice
- I have not concealed any information in my fellowship application. If ICSSR finds any contrary information at any stage, it may cancel my fellowship out rightly and/or penalize me as per ICSSR rules.

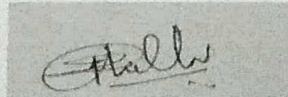
Place :

Pipri-Wardha

Declaration Date :

05/09/2021

Signature :



**Annexure/Checklists**

Forwarding letter from the Head of the affiliating Institution duly stamped and signed on the letter head. .

CV of all Researchers (PD and Co-PDs) with their signatures and consents in writing (Brief CVs, not more than two to three pages each).

Self-attested SC/ST certificate or certificate of disability issued by the competent authority, if required.