

*Thirty sixth*

# **ANNUAL PROGRESS REPORT**

**(2013-2014)**



**Department of Agricultural Economics,  
Extension Education & Rural Sociology  
College of Agriculture  
CSK HP KrishiVishvavidyalaya, Palampur-176 062(HP)**

**August, 2014**

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*Thirty sixth*

**ANNUAL PROGRESS REPORT  
(2013-2014)**

**Head  
Dr. S.K. Chauhan**

**Compiled by:  
Dr. J.S.Guleria  
Ms. Kamini Kapur**

**Secretarial Help:  
Mr Ashok Kumar  
Ms Shagun Sood**



**Department of Agricultural Economics,  
Extension Education & Rural Sociology  
College of Agriculture  
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## Acknowledgement

The Department of Agricultural Economics attained its full fledged status in 1978 in the College of Agriculture, Himachal Pradesh Krishi Vishvavidyalaya, Palampur and was further renamed as, Department of Agricultural Economics, Extension Education and Rural Sociology in January 2009. At Present, this department is pursuing its triple mandate of teaching, research and extension activities. The undergraduate and postgraduate students are being educated and trained in different specialized areas and sub areas of agricultural economics, extension education and rural sociology. These passed out students preferably opt and join the various prestigious research and developmental organizations/institutions in the capacities of scientists, administrators, bank officers and technocrats, etc. with a pledge to serve the society. Up to June 30<sup>th</sup> 2014, there were **thirteen** faculty members (6 Professors/ equivalent, 2 Assoc. Prof./ equivalent, Asstt. Prof./ equivalent) in this department to look after the various concerned teaching, research, extension and other related activities of this university. Further, the faculty members of this department are also involved actively in carrying out need based policy research through various ad-hoc research projects sponsored by ICAR (NAIP), ICSSR, DST, Planning Commission, Govt. of India and the Agriculture, Rural Development and Planning Department, Govt. of HP as well as through post graduate research.

The research outcome of this department can be accessed from the number of completed and ongoing research projects, postgraduate theses as well as the various publications brought out in the form of research papers, teaching manual, extension articles, reports and manuals, etc. The faculty of this department has also acquired the membership of different professional societies in the country and participated in national and regional workshops, conferences and seminars, etc. as and when organized.

At the outset, I take this opportunity to express my sincere gratitude to the Hon'ble Vice-Chancellor, Dr.K.K.Katoch for encouraging the staff members and interests taken in the overall development of this department. I am also thankful to Dr.S.P.Sharma, Director Research, Dr.N.K.Pathania Director, Extension Education (now Dean COA, Palampur), Dr.A.C.Varshneya, Dean Postgraduate Studies (now Dr Vidya Sagar), Dr.Y.S.Paul, the then Dean COA Palampur & Head of the Department (May, 2014 to July, 2014) for their valuable guidance and support in strengthening teaching, research, and extension activities of this department. I am also grateful to the Associate Directors of all the Regional Research and Extension Centers/ Stations for extending necessary facilities to their concerned social scientists from time to time. I am also thankful to all the faculty members of this department and outside of the department for providing the required information and putting their dedicated efforts in bringing out this document. I express my deep sense of gratitude to the ICAR (NAIP), ICSSR, New Delhi and various departments of Govt of HP for providing financial assistance to this department through short and long term research projects. I am also thankful to my entire office staff for providing technical and other support in this regard. Finally, I sincerely appreciate the earnest efforts made by Dr. J.S Guleria (Professor) and Ms.Kamini Kapur (Farm Manager) in compiling and preparing this report in this presentable form. The computer typing/setting assistance in this regard rendered by Mr Ashok Kumar & Ms Shagun Sood, are also thankfully acknowledged.

Palampur  
Dated: 30 August, 2014

Head

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## 1. Department at a Glance (2013-2014)

<b>1. General</b>	
Year of establishment of Department of Agricultural Economics at CSKHPKV, Palampur	1978
Theerstwhile Department of Extension Education & Rural Sociology merged with this Department and renamed as Department of Agricultural Economics, Extension Education and Rural Sociology	15.01.2009
Budget outlay for the Year 2013-14 Expenditure (Lakh Rs.)	1,77,07,276
<b>2. Staff Strength (No.)</b>	
<b>(i) Faculty position including outstations (No.)</b>	
Professor & equivalent	07
Associate Professor & equivalent	06
Assistant Professor & equivalent	02
<b>(ii) Technical Staff</b>	
Technical Assistant Gr-I (Farm Manager)	01
<b>(iii) Ministerial Staff</b>	
Section Officer	01
Sr. Assistant	01
Jr. Assistant/ Clerk	01
Peon	01
Chowkidar	01
<b>3. Teaching &amp; Postgraduate Research</b>	
No. of courses taught at UG level	
Agricultural Economics	12
Extension Education & Rural Sociology	4
No. of courses taught at PG Level	
Agricultural Economics	13
Extension Education & Rural Sociology	05

<b>4. No. of PG students in the Department</b>	
<b>Agricultural Economics</b>	
Students enrolment in M. Sc (New Admissions)	08
Students enrolment in Ph. D	01
<b>Extension Education</b>	
Students enrolment in M. Sc.	0
<b>Postgraduate Degrees Awarded so far</b>	
Degree in M.Sc Ag.Econ.	108
Degree in Ph.D Ag.Econ.	30
Degree in M.Sc. Extn.Edu.	20
<b>5. Research</b>	
Total projects completed so far(including 12,DAPs/SAP)	98
Projects in operation	07
Research reports/mimeographs/bulletin/brochure	27
Research papers published	24
<b>6. Extension</b>	
Extension lectures delivered	172
Pamphlets	1
Popular articles published	12
Radio Talks	Nil

## 2. Introduction

The Department of Agricultural Economics was initially created as a centre for Postgraduate studies in the Division of Economic Sciences, at Himachal Pradesh University (HPU), Shimla in 1971 to pursue teaching and research in the field of agricultural economics. Later on, this department was shifted to Palampur Campus during June 1978. Then this campus acquired the status of Himachal Pradesh Krishi Vishvavidyalaya in November, 1978 and the department of agricultural economics became a vital component of this University. Since then, the department has been pursuing its threefold major activity of teaching, research and extension in this university. The erstwhile Department of Extension Education was merged in this department and the department was renamed as Department of Agricultural Economics, Extension Education and Rural Sociology during the year 2008-2009.

The department imparts education to its' concerned undergraduate and postgraduate students. The postgraduate students are trained in the various areas/ fields of specialization of agricultural economics and extension education. The department has so far produced 30 Ph. D and 128 M.Sc. (including 20 in ext. education) students in its relevant field of specializations in Agricultural Economics and Extension Education. These students have opted and joined the various prestigious Organizations/Institutions in the capacity of administrators, scientists, technocrats, managers and other officers.

The faculty members of this department are actively involved in carrying out various evaluation studies, strategic and policy related research activities through a series of *ad-hoc* research projects as funded by ICAR (NAIP), State as well as Central Government and other developmental agencies. During the year under report, the department had **seven** *ad-hoc* research projects in operation at the main campus as well as at the out stations. In addition, the **11** research projects were also completed and 12 new projects were also sanctioned during 2013-14.

The department has been playing a key role in designing and conducting need based and policy related research through multi-disciplinary research projects. The research outcome of the department can be accessed from a number of completed and ongoing research projects as well as a variety of publications brought out in the form of manuals, reports, research papers and popular articles published in the journals of repute. The faculty members have also obtained their membership and positions in the Executive bodies of different professional societies in the country and participated in National/ Regional conferences and seminars, etc.

The department has also been equally engaged in its extension activities wherein the faculty members served as resource personnel and aptly executed the various extension programmes as organized by CSK HPKV, Palampur as well as other developmental agencies. During the year under report, the faculty of this department delivered lectures, organized training camps, and conducted field days for the farmers/farm women/rural youth and other agricultural extension functionaries on different occasions and locations During Agrifest,2014(Krishi Mahautsav, 2014).

### 3. Staff Strength

The staff strength in the Department of Agriculture Economics and Scientists posted at various Research Stations & KVK's as on 30<sup>th</sup> June, 2013-14 is as under:

Sr. No.	Name of Scheme	Number and name of the Sanctioned Post	Name of Officer/ Official	Designation	Sanctioned post	Post filled up	Vacant post	Remarks
<b>I. Palampur Campus</b>								
1.	APL-010-18	Professor	-	-	1	-	1	-
		Three Associate Professor	Dr. Harbans Lal	Associate Professor	3	1	2	-
		Five Assistant Professor	Dr. S.K. Chauhan	Professor	5	4	1	-
			Dr.J.S. Guleria	Professor				
			Dr. Ashok Kumar	Professor				
			Dr. Anup Katoch	Associate Professor				
		One Section Officer	Sh.Braham Chand	Section Officer	1	1	-	-
		One Sr. Assistant	Mrs. Suman Sood	Sr.Assistant	1	1	-	-
		One Jr. Assistant/ Clerk	Sh.Ramesh Kumar	Clerk	3	1	2	-
			Sh. Joginder Kumar					
One Jr. Scale Steno	-	-	1	-	1	-		
Two Peon	Sh. Dharam Singh	Peon	2	1	1	-		
2.	APL-061-18	Four Assistant Scientist promoted as Pr. Scientist under PPS/ CAS	Dr.D.R.Thakur	Principal Scientist	4			<b>Retired on 30.4.2014</b>
			Dr. Virender Kumar	Principal Scientist				
			Dr. K.D. Sharma	Principal Scientist				
			Dr. M.S. Pathania	Senior Scientist				
3.	APL-001-18	One Farm Manager	Ms Kamini Kapur	Farm Manager (Home-Science)	1	1	-	

### II. Other Faculty

Sr. No.	Name of the staff	Designation	Working Centre
1.	Dr. A.K. Chaubey	Principal Extension Specialist	DEE Palampur
2.	Dr.(Mrs.) Brij Bala	Senior Scientist	Hill Agriculture Research & Extension Centre, Bajaura
3.	Dr. Manoj Gupta	Senior Extension Specialist	KVK, Dhaulakuan
4.	Dr. Rajesh Thakur	Associate Professor	College of Agriculture, CSK HPKV, Palampur
5.	Dr. Arvind Kumar	Senior Extension Specialist & Programme Coordinator	KVK, Una
6.	Dr. D.S. Yadav	SMS	KVK, Mandi at Sundernagar
7.	Dr. Girish Mahajan	SMS	KVK, Kangra



#### 4. Budget Allocation and Expenditure (2013-2014)

Sr. No.	Name of the Scheme	Budget outlay (Rs.)	Expenditure (Rs.)
1.	APL-010-18 (Facilities for Establishment/ Teaching in the Department. of Ag. Econ., Ext. Edu. & Rural Sociology)		1,05,76,991
2.	APL-061-18 (Facility for Research in the Department of Ag. Econ. Ext. Edu. & Rural Sociology)		64,67,259
3.	APL-001-18 (Creation of Facilities for Post Graduate Studies in CSK HPKV, Palampur)		6,63,026
	<b>Total</b>		<b>1,77,07,276</b>

#### 5. Research Projects and Budget Outlay (2013-2014)

##### 5.1 On-going research projects

Sr. No.	Title of the Project	PI & Co-PIs	Funding source	Budget (Rs. in Lakhs)	Year of Start and duration
1.	Study of marketing arrangements for organic produce	Dr. Brij Bala	HP Govt	0.70	2 years
2	A study on production potential, economic viability and marketing system of varied size mushroom units	Dr. S.K. Chauhan Dr.K.D.Sharma	ICSSR	5.00	18 months
3	Emerging issues in dairy production and management	Dr. Harbans Lal Dr. Virender Kumar Dr.K.D.Sharma Dr.Rajesh Kumar	ICSSR	8.00	2 years
4	Assessment and gap analysis of agrochemical-use in vegetables in Kullu district of Himachal Pradesh.	Dr. Brij Bala	HP Govt	0.70	2 years
5	Technological intervention for protected cultivation in Himachal Pradesh of vegetable sciences under RKVY	Dr. K D Sharma Dr. M S Pathania	RKVY	4.60.800	3 Years
6.	DPR of RKVY for sericulture	Dr.S.K.Chauhan	HP Govt	1,64,615	One Year
7.	Documentation and impact study of sericulture development programmes in HP	Dr. S.K.Chauhan	HP Govt.	1.00	6 month

## 5.2 New projects sanctioned during 2013-2014

Sr. No	Title of the Project	PI & Co-PIs	Funding source	Budget (Rs. in Lakhs)	Year of Start
1	Implementation of RKVY Project Technological Intervention for Protected Cultivation of Vegetable science	Dr.K.D.Sharma	Govt. of HP	4,61,800	Oct, 2013
2	Documentation and impact study of sericulture development programmes in HP	Dr. S.K.Chauhan	Govt. of HP	1,00,000	Aug, 2013
3	DPR of RKVY for Sericulture	Dr.S.K.Chauhan	Govt. of HP	1,64,615	Sep, 2013
4	Evaluation of preparatory phase of IWMP Projects 2009-10(ANNI-KULLU)	Dr.HarbansLal	Govt. of HP	56,000	Sep, 2013
5	Impact Study on (SCA)for Sericulture Project at JAKATKHANA	Dr.S.K.Chauhan	Govt. of HP	50,000	Apr, 2014
6	Evaluation of preparatory phase of IWMP Projects 2010-11(IWMP-IV) SOLAN	Dr.J.S.Guleria	Govt. of HP	47,228	Aug, 2013
7	Evaluation of preparatory phase of IWMP Projects 2009-10(IWMP VIII-X) TEAM-1 Evaluation of preparatory phase of IWMP Projects 2009-10(IWMP XI-XIV)	Dr.M.S.Pathania  Dr.Virender Kumar	Govt. of HP	3,09,038	Sep, 2013
8	Evaluation of preparatory phase of IWMP Projects 2009-10(IWMPVI-XI) PRAGPUR	Rajesh Thakur	Govt. of HP	1,02,000	Sep,2013
9	Evaluation of preparatory phase of IWMP Projects 2009-10(IWMP-VI) CHAMBA	Dr.Ashok Kumar	Govt. of HP	61,000	Sep,2013
10	Evaluation of preparatory phase of IWMP Projects 2010-11(IWMPII)Dev.Block AMB	Dr.J.S.Guleria	Govt. of HP	41,710	Dec,2013
11	Socio-Economic Status of Inhabitant of Swan Catchment:A Bench mark study of phase IV-Swan Rever Flood Management Project in UNA District of HP.	Dr.Rajesh Thakur	Govt. of HP	10,00,213	Mar,2014
12	A base line survey of medium irrigation project, Nadaun area Hamirpur district of Himachal Pradesh	Dr Ashok Kumar	Govt. of HP	9,63,000	July 2014

### 5.3 Completed Projects

Sr. No	Name of project	Research Team	Funding agency	Budget outlay(Rs. in lakh)	Year of completion
1.	Assessing Socio Economic and Marketing Aspects of the Bio-Pesticides Mediated Value Chain)	Dr. S. K. Chauhan	ICAR (NAIP)	14.54	Nov, 2008 (6 years)
2	Developing Technologies for Protected Cultivation in HP	Dr. K D Sharma Dr. M S Pathania Dr. Manoj Gupta Dr. (Mrs.) Brij Bala	RKVY (Govt. of H.P.)	11.40	April 2010 (3 years)
3	Documentation and impact study of sericulture development programmes in HP	Dr. S.K.Chauhan	Govt. of HP	1.00	Aug, 2013 6 months
4	Impact analysis of integrated watershed project in SWAN Catchment, Una District of HP	Dr.D.R.Thakur Dr.M.S Pathania Dr. Rajesh Thakur	Govt. of HP	4.98	March, 2013 (9 months)
5	Evaluation of integrated watershed management Programme (IWMP) projects for 2009-10(Solan, Shimla,Chamba,Kangra)	Dr. D.R. Thakur Dr.HarbansLal Dr. Ashok Kumar Dr. J.S. Guleria Dr. M.S. Pathania Dr. S. K.Chauhan Dr. K.D. Sharma Dr.Virender Kumar Dr. Rajesh Thakur Dr. Anup Katoch	Govt. of HP	9.21	August, 2012
6	Impact of Nathpa Jhakri Power Project on the Environment and Livelihood in Kinnaur and Shimla Districts of HP	Dr. Anup Katoch Dr. J.S. Guleria, Dr. Ashok Kumar	ICSSR	6.09	March, 2012 (2 years)
7	Evaluation of preparatory phase of IWMP Projects 2009-10(IWMP VIII-X)  TEAM-1 Evaluation of preparatory phase of IWMP Projects 2009-10(IWMP XI-XIV)	Dr.M.S.Pathania  Dr.Virender Kumar	Govt. of HP	3,09,038	Sep, 2013
8	Evaluation of preparatory phase of IWMP Projects 2010-11(IWMP-IV) SOLAN	Dr.J.S.Guleria	Govt. of HP	47,228	Aug, 2013
9	Evaluation of preparatory phase of IWMP Projects 2009-10(IWMPVI-XI) PRAGPUR	Dr. Rajesh Thakur	Govt. of HP	1,02,000	Sep,2013
10	Evaluation of preparatory phase of IWMP Projects 2009-10(IWMP-VI) CHAMBA	Dr. Ashok Kumar	Govt. of HP	61,000	Sep,2013
11	Evaluation of preparatory phase of IWMP Projects 2010-11(IWMPII) Dev.Block AMB	Dr. J.S.Guleria	Govt. of HP	41,710	Dec,2013

## 6. Departmental Committees

For the smooth functioning of various activities the following committees were constituted during the year under report:

Sr. No.	Name of committee	Position
1.	<b>Academic</b> Dr. S.K.Chauhan Dr. K.D. Sharma Dr. Anup Katoch	Convener Member Member
2.	<b>Research/ Technical</b> Dr. Ashok Kumar Dr. Virender Kumar Dr. K.D. Sharma	Convener Member Member
3.	<b>Extension</b> Dr.J.S.Guleria Dr.Anup Katoch Dr. M S Pathania	Convener Member Member
4.	<b>Annual Report</b> Dr HarbansLal Dr. Rajesh Thakur Mrs. Kamini Kapur Ramesh Kumar	Convener Member Member Member
5.	<b>General Work and PG Lab Committee</b> Dr.Virender Kumar Dr HarbansLal Dr. Rajesh Thakur	Convener Member Member
6.	<b>Web Page Updating Committee</b> Dr Anup Katoch Dr. M S Pathania Dr. Rajesh Thakur	Convener Member Member
7.	<b>Staff Counselor</b> Dr.J.S.Guleria	Convener

## 7. Teaching and Postgraduate Research

During the year under report, teaching at undergraduate as well as postgraduate level has been the prime mandate of this department. The department has also offered courses to undergraduate and postgraduate students of constituent colleges of this university as part of their degree programmes.

### 7.1. Courses Taught

During the academic year 2013-14, the following courses were taught:

#### *Semester I*

Course No.	Course Title	Credit Hours	Instructor (s)
<b>Undergraduate (Agricultural Economics)</b>			
Ag. Econ. 111	Principles of Agricultural Economics	2+0	Dr. Harbans Lal
Ag. Econ. 355	Fundamentals of Farm Business Management	1+1	Dr. Virender Kumar

	(Including Project Development, Appraisal and Monitoring)		
FST 116	Principles of Economics	2+0	Dr. M. S. Pathania
Ag. Econ. 233	Agricultural Finance and Co-operation	1+1	Dr.J.S. Guleria
Ag. Econ 476	Management of Agro-Based Industry	1+3	Dr. Rajesh Thakur
Ag. Econ 477	Marketing Management (Agricultural Import-Export Policy of Government of India & Business Law)	1+2	Dr. K.D. Sharma Dr. D. R.Thakur
Ag. Econ 478	Financial Management and Agri-Business	1+3	Dr. Harbans Lal Dr. Rajesh Thakur
Ag. Econ 4710	Project Formulation, Evaluation and Monitoring	1+2	Dr. S K Chauhan
Ext 475	Information & Communication Management	1+2	Dr. A.K. Choubey/ Mr. Vaibhav Kalia
<b>Post-Graduate (Agricultural Economics)</b>			
<b>M.Sc. First Year</b>			
AG ECON 501	Micro Economic Theory and Applications	2+0	Dr. M.S. Pathania
AG ECON 502	Macro Economics and Policy	2+0	Dr.J.S. Guleria
AG ECON 504	Agricultural Production Economics	1+1	Dr. Ashok Kumar
AG ECON 505	Agricultural Marketing and Price Analysis	2+1	Dr K D Sharma
AG ECON 506	Research Methodology for Social Sciences	1+1	Dr. S K Chauhan
<b>M.Sc. Second Year</b>			
AG ECON 591	Master's Seminar	1+0	Dr. Virender Kumar
<b>Post-Graduate (Extension Education &amp; Rural Sociology)</b>			
SOC 111	Rural Sociology	2+0	Dr. Anup Katoch
Ext 353	Extension Methodology for Social Sciences	1+1	Dr. A.K. Choubey
SOC 501	general Sociology	3+0	Dr. Anup Katoch

### *Semester II*

Course No.	Course Title	Credit Hours	Instructor (s)
<b>Under-Graduate (Agricultural Economics)</b>			
Ag. Econ. 111(0)	Principles of Agricultural Economics	2+0	Dr. Harbans Lal
Ag Econ.122	Production Economics and Farm Management	1+1	Dr. Rajesh Thakur
FST123 (old repeat)	Principles of Economics	2+0	Dr. M. S. Pathania
Ag.Econ.244	Agricultural Marketing, Trade and Prices	1+1	Dr. M. S. Pathania
NCC	NCC	0+2	Dr. Ashok Kumar
<b>Under-Graduate(Extension Education &amp; Rural Sociology)</b>			
Ext-121	Fundamentals of Rural Sociology & Educational Psychology	2+0	Dr. Anup Katoch
Ext-242	Dimensions of Agricultural Extension	1+1	Dr. A.K. Choubey
Ext-364	Entrepreneurship Development and Communication Skills	2+1	Dr. A.K. Choubey

<b>Post Graduate(Agricultural Economics)</b>			
AG ECON 507	Econometrics	2+1	Dr. S.K.Chauhan
AG ECON 508	Linear Programming	1+1	Dr. J.S. Guleria
AG ECON 511	International Economics	1+1	Dr. K.D.Sharma
AG ECON 513	Agricultural Development and Policy Analysis	2+0	Dr Virender Kumar
AG ECON 601	Advanced Micro Economic Analysis	2+0	Dr. Ashok Kumar
AG ECON 602	Advanced Macro Economic Analysis	2+0	Dr. J.S. Guleria
AG ECON 611	Operational Research in Agriculture-1	2+1	Dr K D Sharma/ Dr. Harbans Lal
<b>Post Graduate(Extension Education &amp; Rural Sociology)</b>			
Ext.501	Development Perspective of Extension Education	1+1	Dr. A.K. Choubey
SOC.502	Sociology of Economic Development	3+0	Dr. Anup Katoch

## 7.2. Postgraduate enrolment

The following postgraduate students were on the roll of this department during the academic year 2013-14

Sr. No.	Name	Admission No.	M.Sc./Ph.D	Major advisor
<b>Continuing Students</b>				
1.	Mr Manoj Kumar Sharma	A-2008-40- 02	Ph.D	Dr Ashok Kumar
2.	Mr Jayant Ratna	A-2011-30-007	M.Sc	Dr.D R Thakur
3.	Ms Harvinder Kaur	A-2011-30-006	M.Sc	Dr. Rajesh Thakur
4.	Ms Aditi	A-2012-30-003	M. Sc	Dr. Harbans Lal
5.	Ms Akanksha	A-2012-30-004	M. Sc	Dr. J.S.Guleria
6.	Ms Amita Sharma	A-2012-30-005	M. Sc	Dr. M.S.Pathania
7.	Ms Neha Thakur	A-2012-30-006	M. Sc	Dr. S.K.Chauhan
8.	Ms Sahivi Pandit	A-2012-30-007	M. Sc	Dr.K.D.Sharma
<b>Fresh Students</b>				
<b>Agricultural Economics</b>				
1.	Abhishek Chandel	A-2013-30-009	M. Sc	Dr. Manoj Gupta
2.	Aditi Raina	A-2013-30-010	M. Sc	Dr Rajesh Thakur
3.	Divya Sharma	A-2013-30-011	M. Sc	Dr K D Sharma
4.	Divya Sharma	A-2013-30-012	M. Sc	Dr Ashok Kumar
5.	G. Anil Kumar	A-2013-30-013	M. Sc	Dr M S Pathania
6.	KiranLata	A-2013-30-014	M. Sc	Dr Virender Kumar
7.	Parika Sepahia	A-2013-30-015	M. Sc	Dr. J S Gulera
8.	Vishal Rana	A-2013-30-016	M. Sc	Dr.Brij Bala
9	Jayant Ratna	A-2013-40-014	Ph.D	Dr. S K Chauhan

**7.3 Postgraduate enrolment (Exchange Programme):-**This programme remained suspended during the academic year under report.

#### 7.4. Synopsis seminars (2013-14)

The following postgraduate students delivered their postgraduate research synopsis seminars:

Sr.No.	Name of the student	Thesis topic	Date of synopsis seminar
<b>Agricultural Economics</b>			
1.	Abhishek Chandel	Economic analysis of high breed paddy production in Paonta Valley of Distt. Sirmaur of Himachal Pradesh	26-10-2013
2.	Aditi Raina	Farm mechanization and power utilization in Kangra District of Himachal Pradesh	26-10-2013
3.	Divya Sharma	A study on performance and achievement of Kissan Credit Card scheme in Kangra District Of Himachal Pradesh	26-10-2013
4.	Divya Sharma	Production and marketing of mashroom in Mandi District of Himachal Pradesh	26-10-2013
5.	G. Anil Kumar	Economic valuation of natural resource: The case study of Pong Dam wetland of Himachal Pradesh	26-10-2013
6.	KiranLata	Effect of Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) on Employment, Income and Livelihoods: A case study of a panchayat in Kangra District of Himachal Pradesh	26-10-2013
7.	Parika Sepahia	An economic analysis of production and marketing of potato farming in Nagrota Bangwan Block of District Kangra.	26-10-2013
8.	Vishal Rana	An economic survey on technological gap in management of protected cultivation in Kangra District of Himachal Pradesh	26-10-2013
9.	Mr Jayant Ratna	A study on climate change impacting agrarian economy in Western Himalayas	24-05-2014

#### 7.5. Credit seminars (2013-14)

Sr. No.	Name of student	Title of seminar	Date
1.	Ms Sahivi Pandit (A-2012-30-007)	Food security bill: implication for Indian economy	30-11-2013
2.	Ms Neha Thakur (A-2012-30-006)	An overview of Kisan Credit Card scheme in India	30-11-2013
3.	Ms Akanksha (A-2012-30-004)	Implementation and performance of MNREGS: A state wise analysis with this special reference to HP	30-11-2013
4.	Ms Amita Sharma (A-2012-30-005)	Performance of Sarv Siksha Abhiyan in HP	07-12-2013
5	Ms Aditi (A-2012-30-003)	Indian agriculture in the post economic Reforms period : An analysis of growth trends and policy options	07-12-2013

### 7.6. Thesis seminars (2013-14)

Sr. No.	Name of student	Title of thesis	Date
1.	Mr Jayant Ratna	A study of farm inputs use of vegetable growers in district Kullu of Himachal Pradesh	17.08.2013
2.	Ms. Harvinder kaur	A study of natural resources management & harvesting project in District Hamirpur	21.12.2013
3.	Mr Manoj Kumar Sharma	Economic analysis of Commercial flower cultivation in Sirmaur District of Himachal Pradesh	28.06.2014
4.	Ms Sahivi Pandit	Economic analysis of milk cooperatives and processing plant in Mandi District of Himachal Pradesh	28.06.2014

### 7.7. Thesis viva-voce examination:

Sr. No.	Name of the student	Admission Number	Date
<b>Agricultural Economics</b>			
1.	Mr. Jayant Ratna	A-2011-30-007	28.09.2013
2.	Ms. Harvinder Kaur	A-2011-30-006	19.02.2014

### 7.8. Theses completed during, 2013-14:

<b>1. Title of thesis</b>	A study of farm inputs use of vegetable growers in district Kullu of Himachal Pradesh
Name of student	Jayant Ratna
Admission No.	A-2011-30-007
Degree awarded	M.Sc.
Major Advisor	Dr. D R Thakur
Date of thesis completion	30.09.2013
Date of thesis Viva-Voce exam	28.9.2013
<b>Findings</b>	<p>The results emanated from the study showed that there was a cropping intensity of 168.14 per cent on the sample farms. Out of the total cropped area of 13.76 bigha per farm, 78.18 per cent area was found to be under vegetables. The average yield of the entire major crops and fodder were at par with the state level productivity rates. Furthermore, the female headed families were obtaining 10 to 18 per cent higher productivities than male headed ones in case of cucumber, cauliflower, cabbage and pea crops. The educational-level of the head of the sample households has direct relationship with the productivity of all the vegetable crops grown. There was over use of seed use in most of the vegetables on the sample farms except cauliflower, iceberg, squash and bitter guard where it was found to be less than the recommended quantity. The FYM use in case of all the major vegetables (except iceberg and cucumber) was found to be very less indicating that farmers of the study area couldn't apply the FYM to an actual recommended level on their farms. About 71 per cent of the labour requirement was met through family labour on the sample farms. Private shops were the major source of supply of planting materials and plant protection materials in the study area, while the supply of different fertilizers required (85.89 %) on sample farms were met through co-operative based distribution system. Highest output-input ratio was found to be in tomato crop (1.88) followed by iceberg (1.81), Cauliflower (1.62) and cabbage (1.14). Very high prices of farm inputs, timely unavailability of fertilizers, lack of awareness about the latest technology and increasing wages of labour were some of the major problems reported by the farmers. The policy implications suggested the need of awareness creation among farmers regarding proper use of fungicides and pesticides in the study area, provision of more subsidies by government on mixed fertilizers like IFFCO and availability of planting materials to the growers at reasonable rates.</p>



<b>2.Title of research problem</b>	A study of natural resources management& harvesting project in District Hamirpur
Name of student	Ms. Harvinder Kaur
Admission No.	A-2011-30-006
Degree awarded	M.Sc.
Major Advisor	Dr. Rajesh Thakur
Date of thesis completion	22.2.2014
Date of thesis Viva-Voce exam.	19.2.2014

**Findings:**

There were in total 90 water harvesting sites in the project area. Total catchment area of the project was 4704.02 ha covering 85 villages of the district. The total cost of the project was Rs.656.74 lakh for the completion of different soil and water conservation activities. The average cost of soil and water conservation in the project area was Rs 7.30 lakh/project site. Out of the 90 project sites, 68 per cent of the project sites were having a catchment area of less than 50 hectares. The total and storage structures in the district were constructed in the district with a total expenditure of Rs 396.79 lakh. About 31, 21 and 17 per cent of the funds were used for the construction of dams in Nadaun, Sujanpur and Bhoranj blocks, respectively. About 18857 agro-forestry plants were also planted on different project sites with a total expenditure of about Rs 2.95 lakh. The productivity of crops in general was found to higher on project beneficiary farms as compared to non-project beneficiaries. The relative high productivity especially in case vegetable crops on project beneficiary farms was a direct impact of project. The seed rate of all crops was higher on non-project beneficiary farms as compared to project beneficiary farms in case of maize, wheat and barley. The fertilizer use had increased in all crops of project beneficiaries farmers except maize and wheat as compared to non-project beneficiaries.

The per hectare human labour use pattern in different vegetable crops on project beneficiaries varies between 126 to 231 man days. The extent of labour use pattern on project beneficiaries was comparatively higher as compared to non-project beneficiaries. The labour requirement/use has been increased from 133 to 163 man days/annum by registering an increase of about 23 per cent on project beneficiaries. The variable cost in case of vegetable crops on project beneficiaries was found to be 11 to 22 per cent higher as compare to non-project beneficiaries. The net returns from maize (Rs 16,625 per ha) were found to be highest followed by wheat (Rs 8,963 per ha) on project beneficiaries. The net returns from of maize and wheat on project beneficiary farm categories was about 3 and 4 per cent higher as compared to non-project beneficiaries.

Among vegetable crops, the increase in net returns was found to be highest in case of cucumber (46 per cent) followed by cauliflower (34 per cent) on project beneficiary farms as compare to non-project beneficiaries. Low level of water as compared to the agricultural field, high capital requirement for lifting of water from the check dam and no provision of electricity on check dam site were reported as the major problems related to water lifting. Farness of fields from the check and lack of proper channelization were quoted as water distribution problems by the majority of the project beneficiaries. Risks involved in adoption of new crops and lack of technical knowledge, selection of new crops, and non-availability of water at critical stages of crop production were identified as key problems related to crop diversification.

**8. Research Highlights**

- The ex-post evaluation study of the CDP project based on 120 beneficiaries in 9 GSCs and 59 sericulture villages revealed that Ghumarwin, Mandi and Nadaun sericulture divisions performed better with their achievement level of almost 100 per cent. Across sectors, mulberry primary, mulberry seed and service sector also achieved success over 93 per cent. However, achievement level of cocoon sector was comparatively low (65.33%) which call for the attention of project authorities in all the divisions, particularly in Palampur where achievement level was below 50 per cent. The study further revealed that cocoon rearing was adopted as subsidiary avocation by

different age group people ranging from 30 years to 60 years with small family size and in few cases the disabled were helping other family members in pruning, chaffing and feeding mulberry leaves. The study also showed that socio economic status of beneficiary households was higher in terms of knowledge and adoption level of silk worm rearing technology, the employment and income generation than non-beneficiary households. During the project period, the area under mulberry at sample household level increased by 400% from just 0.02 ha to 0.10 ha, of which most of the area has been brought under S146 variety yielding 180 per cent higher leaves than local varieties, thus solving the problem of shortage at one hand and supplying leaves with better nutrition. At sericulture household level, the usage of separate rearing house and improved tools & equipments have reduced the number of silk worm losses from 200 to 100 and deformed cocoons from 100 to 50 per crop per beneficiary resulting from absconding and congestion, respectively. The CDP interventions have also enhanced the size and quality grade of cocoons in addition to the cocoon production and their per ounce productivity by over 50 per cent. Likewise the income of individual farmer increased by 163.26 per cent, which enabled them to invest on construction of a rearing house (7.50 %), and children's education (20.00 %) besides meeting their daily domestic social needs.

- The scheme *Pandit Deen Dayal Kisan Bagwan Samridhi Yojna* (PDDKBSY) was implemented in 2008-09. Total target for PDDKBSY was fixed to construct 16,500 polyhouses covering total area of 147 ha under protected cultivation. The achievement till Nov, 2012 was the construction of 11081 polyhouse units covering an area of 126.50 ha. Protected cultivation has been found to be capital-intensive avocation and the capital investment was directly proportion to the size of the polyhouse. On overall basis, the total capital investment varied from Rs. 1,32,149 for small, Rs. 3,11,998 for medium and Rs. 6,49,909 for large polyhouse units. Major component of this investment was in the form of subsidy on polyhouse structure accounting for 80 per cent of the investment.
- An impact study on special central assistance for sericulture project reveals that the project has impacted the livelihood of beneficiaries in many ways. Firstly, the project has created the entire necessary supportive infrastructure like 0.2 ha government mulberry farm with improved S146 and S30 varieties giving higher average yield and nutritionally rich food for silk worms. The project has got established nearby CRC and marketing centre at Jakatkhana fully equipped with modern tools and machinery to facilitate the cocoon production technology and purchase green cocoons immediately after harvest without wasting any time at grower's level. This infrastructure has been very effective in raising the use of silk seed by over four times and the cocoon production by five times over a period of four years (2010-11 to 2013-14). Many farmers in many villages have joined in sericulture programme whose awareness level in sericulture technology has reached to 45% through training and exposure visits. The sericulture has further impacted in terms of raising income and employment of beneficiaries to the extent of 2 and 11%, respectively. The socio-economic status of women has risen. However, inadequate financial support for constructing rearing shed and low average yield of cocoons per ounce of seed due to inadequate supply of mulberry leaves needs special attention to harness the potential in its right perspective and realize success of the project in future.
- A study on impact analysis of integrated watershed project in swan catchment of Una district during 2013-14 revealed that agriculture was reported to be the major source of occupation for about 60 per cent of the sample households. During the project implementation period the area of cereal crops has been decreased by about 6 per cent and has been shifted to cash crops. The productivity of most of the field crops has been increased. The proportional increase in the income from agricultural crops, fruit crops and livestock was 43, 35, and 55 per cent, respectively. On an

average about 46 per cent households adopted new avocation as a major source of income which comprised. The employment generation in field crops has increased Soil and water conservation measures undertaken during the project were reported to be very beneficial for increasing the livelihood options in the area. Selection of crops, lack of technical knowledge, scarcity of water at critical stages of crops, scarcity of labour, stray cattle, low productivity of crops, low investment by the farmers in infra-structure, etc. were identified as the major problems. There is need to replicate such projects in the other hilly area with slight modifications. More emphasis needs to be given on human resource development and transfer of latest agricultural technology to the door steps of the farming community. Further, in order to improve the socio-economic conditions of the farming community, more efforts should be made to promote less land demanding activities in the future programmes.

- The Department carried out evaluation of IWMP Watersheds (Preparatory phase) in Rampur (VIII-X) Based on indicators was ad judged to be the overall performance of preparatory phase of IWMP-VIII Rampur, the performance was assessed to be of “Very Good” .category
- In Pilot study Sub Zone 1.2 for GIS mapping of resources and advisories, more than fifty per cent of the households in the villages of Pohara, Bhoi, Jhikli Ansuhi, Lahlar, Uperli Ansuhi, Dudhambh, Naushera and Basnoor villages, were reported to derive their livelihood from agriculture. Comparatively, higher proportion of households was found to depend on casual labour in Lanjot, Dudhambh and Upperla Dhanotu villages. The size distribution of the land holdings revealed that the extent of marginal farmers, having land less than I hectare, ranged from 65 per cent in Basnoor village to 99.5 per cent in Dudambh village. The cropping pattern in all the villages is dominated by paddy and wheat in paddy-wheat cropping sequence. However, some area was also under maize was allocated during kharif in some villages. The cultivation of vegetables in the selected villages was not a common practice, however Dudhamb and Naushera were found to grow potato, peas, onion, bhindi, brinjal and cucurbits on small scale. In all the villages of Dudhambh panchayat and Bagru of Basnoor panchayat farmers also reported growing of oilseeds. Surprisingly, the pulse crops were found to be missing from the cropping pattern of these villages. The gap in average productivity was found to be substantial in most of the crops. It ranged from about 8 % in potato in Naushera to 150% in paddy in Upperla Dhanotu. The extent of farm mechanization in study villages was very low except for threshing in wheat and chaff cutter in livestock component. The adoption of polyhouse/ hi-tech agriculture was not of high order as only few farmers in Basnoor and Dudhambh panchayats were having polyhouses despite massive government subsidies/incentives for such activities.

## Research Projects

### 8.1. Research projects completed during the year as PI:

<b>Title of the Project</b>	<b>Evaluation of IWMP Watersheds (Preparatory phase) in Rampur (VIII-X)</b>
<b>Research Team</b>	Dr. Virender Kumar, Dr M S Pathania, Dr. Harbans Lal, Dr J S Guleria, Dr. Brij Bala
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To obtain essential benchmark data related to the project and incorporating the same in DPRs.</li> <li>2. To identify phase-wise tangible outputs and behavioral outcomes that can be used in the long-term impact evaluation of the project.</li> <li>3. To suggest improvement and initiate timely actions</li> </ol>
<b>Methodology</b>	As per the given guidelines of the Government
<b>Main findings</b>	The overall performance of the evaluation of preparatory phase of IWMP-VIII Rampur stood at “Good”.

	<p>The overall performance of the evaluation of preparatory phase of IWMP-IX Rampur stood at “Very Good”.</p> <p>The overall performance of the evaluation of preparatory phase of IWMP-X, Rampur stood at “Very Good”.</p>
<b>Title of the Project</b>	<b>Developing Technologies for Protected Cultivation in Himachal Pradesh under RKVY-- Economics and Marketing Strategies</b>
<b>Research Team</b>	Dr. K. D. Sharma (PI), Dr. M. S. Pathania (Co-PI), Dr. Brij Bala (Co-PI), Dr. Manoj Gupta (Co-PI)
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To examine the capital investment pattern on different sizes of poly house units constructed in the study area under PDDKBSY.</li> <li>2. To study the techno-economic aspects of crop production, input use and to estimate the cost and returns of different crops grown under protected cultivation.</li> <li>3. To study the marketing system and marketing efficiency for the commodities produced under protected cultivation.</li> <li>4. To identify the problems related to production and marketing of commodities produced under protected cultivation and suggest suitable strategies.</li> </ol>
<b>Methodology</b>	<p>This study was conducted in five districts viz., Bilaspur, Kangra, Kullu, Mandi and Sirmaur districts representing different agro-climatic zones of Himachal Pradesh. The polyhouse owners were divided into small (having area 100-105 m<sup>2</sup>), medium (area equal to 250-252 m<sup>2</sup>) and large (having area above 252 m<sup>2</sup>). As many as 30 polyhouse units of different size categories were selected randomly from each district with a total sample of 150 polyhouse growers (23 small, 73 medium and 54 large). Five markets namely, Bilaspur, Kangra, Kangni (Mandi), Kullu/ Bhunter and Paonta Sahib with in Himachal Pradesh and two distant markets namely Bhalle (Amritsar) and Azadpur (Delhi) were selected and ten traders (commission agents and retailers) were selected randomly in each study market. Secondary data were collected from Department of Agriculture and from APMC offices in markets.</p>
<b>Main findings</b>	<ol style="list-style-type: none"> <li>1. Total target for PDDKBSY was fixed to construct 16,500 polyhouses covering total area of 147 ha under protected cultivation. The achievement till Nov, 2012 was the construction of 11081 polyhouse units covering an area of 126.50 ha.</li> <li>2. Protected cultivation has been found to be capital-intensive avocation and the capital investment was directly proportion to the size of the polyhouse. On overall basis, the total capital investment varied from Rs. 1,32,149 for small, Rs. 3,11,998 for medium and Rs. 6,49,909 for large polyhouse units. Major component of this investment was in the form of subsidy on polyhouse structure accounting for 80 per cent of the investment.</li> <li>3. The most popular design of polyhouse constructed under PDDKBSY was Quonset type with single door fittings. Drip irrigation and fogger have been installed in majority of the polyhouse units.</li> <li>4. On overall basis, capsicum was found to be the most predominant crop accounting for 57 per cent of the cropped area followed by tomato commanding about 19 per cent of the cropped area. The other crops grown under protected cultivation were cucumber,</li> </ol>

	<p>frenchbean, cauliflower, coriander, peas and raising nursery.</p> <ol style="list-style-type: none"> <li>5. During survey it was found that farmers were not well aware of the scientific management practices for growing polyhouse crops. This was quite evident from the practices followed like selection of right type of variety/crops, keeping proper spacing/density of plants and following optimum fertigation schedule. There were few progressive farmers following good management practices and thereby getting higher yields.</li> <li>6. Due to difference in the knowledge level, management practices and inputs use, there exists glaring inter-farm as well as inter-regional gaps in the yield level obtained by the growers. The yield variability was to the extent of 80 per cent in cucumber, 78 per cent in tomato and about 77 per cent in capsicum.</li> <li>7. The fixed cost accounted for 40 to 45 per cent of the total cost. Labour accounted for more than 60 per cent of the variable cost and 35 per cent of the total cost. Capsicum (green as well as colored) was the most profitable crop under protected cultivation. Tomato and cucumber were profitable only over variable cost. Medium sized polyhouse units obtained higher yields and, thus, were more viable.</li> <li>8. The protected cultivation has raised the gross household income to the extent of 12 to 26 per cent and human labour employment to the extent of 29, 81 and 173 man days on small, medium and large units.</li> <li>9. The marketed surplus varied from 90 to 97 per cent/ five marketing channels have been identified for the sale of commodities. These include self sale (channel-I) , sale through commission agent (channel-II), sale through retailer (channel-III), sale through broker in the distant markets (channel-IV) and direct sale in <i>Apni Mandi</i> (channel-V)were identified</li> <li>10. The price spread analysis shows that in sale through channels I and V the producer's share was to the extent of 90 to 97 per cent. In channels–II and III, the producer's share varied from 57 to 64 per cent, while in case of sale in the distant markets (channel IV), the producer's share was quite low (38 to 41 %).</li> <li>11. The trends in monthly prices showed that. in case of tomato the monthly prices s increase was of Rs. 44.93/q in Amritsar market and Rs. 25/q in Kullu market. In cucumber also, the price recorded an increase of Rs. 24/q in Amritsar market and about Rs. 16/q in Bilaspur and Kangra markets.</li> <li>12. The major problems were lack of technical knowhow, lack of proper advice from extension agencies, lack of adequate and timely supply of inputs, lack of skilled labour and finally lack of insurance scheme for polyhouse structure.</li> </ol>
<b>Title of the Project</b>	<b>Biopesticides mediated value chain for clean vegetable (Consumer Awareness and Promotion of Vegetable Production)</b>
<b>Research Team</b>	Dr. S. K. Chauhan
<b>Year of Start and Duration</b>	October 2008, 4 Years 6 months
<b>Funding Agency</b>	ICAR (NAIP)
<b>Budget Amount(Rs)</b>	Rs 12.24 lacs

<b>Objectives</b>	To examine the impact of biopesticide project on income and employment generation of selected vegetable growers raising cabbage and cauliflower crops.
<b>Methodology</b>	The study was carried out in Kangra, Kullu and Mandi districts where four villages from each district and further 5 vegetable growers from each village were chosen for the impact assessment where project was executed.
<b>Findings</b>	As many as 1796 vegetable growers were directly trained for the adoption of biopesticides and bioagents technologies. About 22% vegetable growers who adopted biopesticide technology earned Rs 5900/ha as an incremental benefit over the chemical pesticide technology. Fourteen vegetable growers adopted corycera rearing in the form of entrepreneurship. The biopesticide project generated 25 mandays employment per beneficiary. However, on account of income generation, the project could enhance the income by Rs 6550/beneficiary households. In all the cumulative contribution of biopesticide was assessed to be Rs 28.29 lakh in the project area and Rs1882.83 lakh projected at the state level.
<b>Title of the Project</b>	<b>Impact of Nathpa Jhakri power project on the environment and livelihood in Kinnaur and Shimla districts of HP</b>
<b>Research Team:</b>	Dr(s) Anup Katoch, J.S. Guleria and Ashok Kumar
<b>Year of Start and Duration</b>	March, 2012 to March 2014
<b>Funding Agency</b>	ICSSR
<b>Budget Amount(Rs)</b>	6.09 Lakh
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To study the socio-economic profile of the residents in the vicinity of weir to powerhouse of the Nathpa Jhakri hydroelectric power project.</li> <li>2. To examine the effect of power project on natural resources and environment in the study area.</li> <li>3. To analyse the impact of power project on farm production systems, income and livelihood status in the study area.</li> <li>4. To highlight the problems and constraints faced by the inhabitants and seek solutions from different strata of respondents comprising of intellectuals, political/farm leaders, academicians, project authorities, farmers and workers, etc.</li> </ol>
<b>Methodology</b>	Selection of Study Area: Four Gram Panchayats in vicinity of the project were selected. Amongst these Gram Panchayats twenty villages were randomly selected Preparation of schedule: The schedule was prepared to collect information from the respondents and pilot study was conducted by the research team in the study area to finalize the schedule.
<b>Progress of work</b>	The data collection has been completed in the study area. Tabulation work and analysis of data is in progress. Twenty five per cent of the data has been uploaded in master sheets of excel programme and rest of the data is being uploaded. Past studies have been reviewed.
<b>Title of the Project</b>	<b>Impact analysis of integrated watershed management project SWAN catchment, Una district of Himachal Pradesh</b>
<b>Research Team:</b>	Dr(s) D.R.Thakur, M.S. Pathania and Rajesh Kumar
<b>Year of Start and Duration</b>	31 March 2013 to 31 <sup>st</sup> October 2013 (8 months)
<b>Funding Agency</b>	SWAN River Integrated Watershed Management Project, Una (H.P)

<b>Budget Amount (Rs.)</b>	Rs. 4.90 Lakh
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To study the watershed interventions in project area.</li> <li>2. To examine the change in the socio-economic pattern of the households.</li> <li>3. To examine the impact of project on income, employment, capital formation and livelihood pattern of households of the catchment area.</li> </ol>
<b>Methodology</b>	SWAN river has 42 sub-watersheds however, intervention has taken place in 22 watersheds, out of which 10 were selected randomly. The Primary data were collected from 150 households.
<b>Findings</b>	<p>Out of the total budget of Rs. 215.85 crores, 86% was utilized. The investment in residential and farm buildings revealed a remarkable improvement. The area has been shifted to cash crops from cereals. The productivity of most of the field crops has been increased which was highest in case vegetables especially in cabbage (43.26 per cent). During the project implementation period the average size of livestock unit increased from 1.62 to 2.71. The overall farms income has been increased by 50 per cent during the project implementation period. Similarly the employment generation in field crops has increased. It was reported by the majority of the farmers that different soil and water conservation measures implemented during the project are very beneficial for increasing the livelihood options in the area. The commodity based groups have been formed under the project were found to be facilitators for other members in arranging critical inputs. They were doing pioneering services with respect to production and marketing of produce. Selection of crops, lack of technical knowledge, scarcity of water at critical stages of crops, stray cattle, low productivity of crops, low investment by the farmers in infra-structure, etc. were identified as the major problems. High marketing costs, low prices and inadequate post-harvest technology, were reported to be the other major problems. Based on these outcomes, more emphasis needs to be given on human resource development and transfer of latest agricultural technology to the door steps of the farming community.</p>

## 8.2 Ongoing research projects as PI

<b>Title</b>	<b>A Study on Production Potential, Economic Viability and Marketing System of Varied Size Mushroom Units in Himachal Pradesh</b>
<b>Research Team</b>	Dr. S. K Chauhan
<b>Year of Start and Duration</b>	Aug, 2013 (18 months)
<b>Funding Agency</b>	ICSSR
<b>Budget Amount (Rs.)</b>	Rs 5.00 lakh
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To document the existing policy of state government for harnessing mushroom potential; the status of resource infrastructure for developing backward and forward linkages in the production of various types of edible mushrooms on commercial lines.</li> <li>2. To work out the growth and trends in number of mushroom growing units, production and productivity in the state</li> <li>3. To study the socio- economic status of different types of mushroom entrepreneurial units in terms of existing costs, returns and their economic viability</li> </ol>

	<ol style="list-style-type: none"> <li>4. To study the production and marketing system along with marketing costs, margins, marketing efficiencies and export potential.</li> <li>5. To identify problems and constraints faced by the mushroom entrepreneurs and to suggest ways and means to overcome them for the promotion of mushroom cultivation</li> </ol>
<b>Methodology</b>	The study is carried out Kangra, Mandi Solan, Hamirpur and Una. A random sample of 200 mushroom growers was collected from the above stated districts.
<b>Findings in brief</b>	Data tabulation is in progress. Sixty farmers of medium category have been tabulated so far. Introduction and review of literature chapters have been finalised.
<b>Title</b>	<b>Emerging issues in dairy production and management</b>
<b>Research Team</b>	Dr. Harbans Lal ,Dr. K.D. Sharma, Dr.Virender Kumar and Dr. Rajesh Kumar
<b>Year of Start and Duration</b>	Aug,2013 2Years
<b>Funding Agency</b>	ICSSR
<b>Budget Amount (Rs)</b>	Rs.8.00 Lakh
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To study the composition of dairy animals, productivity and management aspects of different breeds</li> <li>2. To examine the demand supply gap of fodder resources and veterinary services</li> <li>3. To work out the cost of production of milk and milk products and contribution of dairying in farm employment, income and linkage with sub system</li> <li>4. To study the marketing of milk and milk products and role of supporting institutions in efficient marketing</li> <li>5. To carry out SWOT analysis mof dairying of dairying farming and suggest suitable policy interventions for vibrant dairy farming.</li> </ol>
<b>Methodology</b>	The study is being conducted in Mandi and Hamirpur districts of Himachal Pradesh with that a total sample of 200 farmer households
<b>Progress of work</b>	To collect the information from the farmer households, a comprehensive survey schedule has been designed. The pilot study was conducted by the research team in the study area to finalize the schedule .The primary data is being collected
<b>Title</b>	<b>Detail project report (DPR) of RKVY project on sericulture</b>
<b>Research Team</b>	Dr S. K Chauhan
<b>Year of Start and Duration</b>	February, 2014, 6 months
<b>Funding Agency</b>	Govt. of H.P
<b>Budget Amount(Rs)</b>	1.64 lakh
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. To prepare component wise detail project report for different sericulture divisions, and</li> <li>2. To forecast the value of economic magnitudes in terms of potential benefits of each component like mechanization, silkworm seed production, human resource development through demonstration cum training infrastructure and silk marketing infrastructure in the project area.</li> </ol>
<b>Methodology</b>	The study is carried out in five sericulture division in six districts namely Bilaspur, Kangra , Mandi, Sirmour, Hamirpur and Una



<b>Progress of work</b>	Data collection has been completed. Data have been tabulated and analysed. Draft report submitted. Final report writing is in progress.
<b>Title</b>	<b>Technological Interventions for protected cultivation in HP for Vegetable Sciences</b>
<b>Research Team</b>	Dr. K. D. Sharma (PI), Dr. M. S. Pathania (Co-PI), Dr. Brij Bala (Co-PI), Dr. Manoj Gupta (Co-PI)
<b>Year of Start and Duration</b>	Oct. 2013 (3 years )
<b>Funding Agency</b>	RKVY
<b>Objectives</b>	<ol style="list-style-type: none"> <li>1. Improvising polyhouse structures for low and high hill regions and integration of crop production and protection techniques for evolving profitable cropping technologies.</li> <li>2. Introduction and evaluation of new vegetable crops for protected cultivation and monitoring of farmers polyhouses to identify their potential problems.</li> <li>3. Validation of location specific profitable technologies at farmer's polyhouses.</li> <li>4. Human Resource Development of stakeholder through technology demonstrations.</li> </ol>
<b>Methodology</b>	The study is being undertaken in four districts viz., Bilaspur, Kangra, Kullu and Sirmour districts with 80 farmers (20 in each location).
<b>Progress of work</b>	Two schedules have been designed. The secondary data on number of polyhouse units constructed in the state have been compiled. The periodic collection of experimental farm data at each station regarding plant density, input doses, labour use and yield levels at different locations is in progress. The sampling plan for selection of 80 farmers has been finalized.

### 8.3 Research Projects in which working as Co-PI in other departments/units/colleges of the university

<b>Name of the Scientist</b>	<b>Title of the Project</b>	<b>Co-PI</b>	<b>Funding source</b>	<b>Year of Start and duration</b>
<b>Dr. D.S. Yadav</b>	National Initiative on Fodder Technology Demonstration	Co-PI	IGFRI, Jhansi	September, 2013
	Detailed Project Report (DPR) preparation of Balh block under IWMP Balh-VIII	Team Member	Govt. of HP	2013
	Protection of plant varieties & farmers right act	CO-PI	PPV & FR New Delhi	2012
<b>Dr. Manoj Gupta</b>	Technological Intervention for protected cultivation of vegetable crops in Himachal Pradesh	CO-PI	RKVY	2013-14 (on-going)
	Watershed Development at Bharog Baneri (Sirmour)	CO-PI	State Agri Deptt	2007-08 (on-going)
<b>Dr. Anup Katoch</b>	Impact, adaptations and vulnerability of Indian agriculture to climate change.	Co-PI	ICAR	April 2008 (4 years)

#### 8.4. New projects sanctioned during 2013-14

<b>I</b>	<b>Title of the Project</b>	<b>A base line survey of medium irrigation project, Nadaun area Hamirpur district of Himachal Pradesh</b>
1	Research Team	Dr Ashok Kumar
2	Year of Start and Duration	2014
3	Funding Agency	HP Govt.
4	Budget Amount(Rs):	Rs.9.63 lakhs
<b>II</b>	<b>Title of the Project</b>	<b>Socio Economic Status of Inhabitants of Swan Catchment : A benchmark study of Phase IV Swan River Flood Management Project In UNA District of Himachal Pradesh</b>
1	Research Team	Dr Rajesh Thakur, Dr M S Pathania, Dr Anup Katoch
2	Year of Start and Duration	2014 (15 Months )
3	Funding Agency	IPH Department Govt. of Himachal Pradesh
4	Budget Amount (Rs)	Rs.11Lakh

#### 9. Extension Activities:

##### 9.1 Extension lectures delivered

Training Programme/Topic of lecture	No. of Lectures	Date(s) and No. of Participants
<b>Dr. S.K. Chauhan</b>		
Use of bio pesticides for increased economic returns and record keeping	7	27/10/2013 (60), 26/11/2013(30), 23/12/2013 (25), 27/12/2013 (25), 28/12/2013 (25), 22/1/2014 (35)
Economic status of beekeeping	5	25/1/2014 (28),21/2/2014 (25), 26/3/2014 (54),11/06/2014 (23)
Economics of production and trade in honey	1	26/06/2014 (25)
<b>Dr.J.S.Guleria</b>		
Economics for establishing small unit of mushroom cultivation	5	19/7/2013(32), 16/8/2013 (31), 29/8/2013(28), 22/5/2014(30), 20/6/2014(18)
Marketing strategies in mushroom cultivation	5	19/7/2013 (32), 16/8/2013 (31), 29/8/2013 (28), 22/5/2014 (30), 20/6/2014 (30)
Conflict management for field engineers JAICA	1	20/7/2013(40)
Qualities of good mushroom growers	6	24/9/2013(33), 30/10/2013(40), 19/12/2013(30), 18/1/2014(35), 13/2/2014 (40),4/3/2014 (54),
Conflict management for better management of natural resources	1	28/12/2013 (45)
Vegetable production as per demand in market	1	24/1/2014 (45)
Motivation and EDP in agriculture for KVK scientists	1	6/2/2014 (11)
Conflict management for Self Help Groups	2	11/2/2014 (42),22/2/2014 (32)
Women motivation for successful management of SHG (ladies)	1	21/2/2014 (39)
Experiential learning on mushroom cultivation,	1	24/2/2014 (17)

Economics and marketing strategies, RAWE students		
Economics of Mushroom cultivation	1	4/3/2014 (54)
Institutional development processes Jaica Farmers	1	13/6/2014 (40)
<b>Dr. Ashok Kumar</b>		
WTO and its implications, lecture delivered in training programme on “agricultural Marketing-The New Paradigms July 01-04,2013 at CSKHPKV, Palampur. Organized by MANAGE, Hyderabad.	1	1/4/2013 (40)
Lecture on Personality Development. On 23-07 2014 in NCC,CATC at GSSS, Rait (Kangra)	1	23/7/2014(502)
Maintenance of farm Records Lecture delivered to farmer trainees in a training programme organized by Deputy Director of Agriculture, Kangra at Palampur-JICA Training Programme at Palampur on 28-10-2013.	1	28/10/2013(35)
Delivered a lecture to Indian Economic Officers (IES) on Agriculture – Key Role for Uplifting the Farmers on 02-11-2013 at CSK HPKV, Palampur	1	2/11/2013 (5)
Problems of Irrigation System and its Management farmers at JICA Training programme, Palampur on 13-12- 2013	1	13/12/2013(50)
Diversification with vegetable crops for enhancing the income at JICA Training programme, Palampur on 23-01- 2014	1	23/1/2014 (50)
Lecture delivered to the farmers in training programme organized by Deputy Director, Kangra at Palampur under JICA at ATMA Hall, Palampur on Four Pillars of Leadership: Command, Control, Organization and Management on 11-02-2014	5	11/2/2014 (45), 20/2/2014 (45), 21/2/2014(40), 20/3/2014(30), 17/5/2014 (30)
<b>Dr. K. D. Sharma</b>		
Commodity futures market in agri-commodities importance and operational mechanism. Lecture delivered to trainees on agriculture marketing organized by MANAGE Hyderabad at CSK HPKV Palampur	1	4/7/2013(40)
Economics of protected cultivation Lecture delivered	3	9/8/2013 (20), 2/9/2013 (30), 11/9/2013(30)
Vegetable production for profitable marketing Lecture delivered to farmer trainees on Diversification of Farming organized by Directorate of Ext. Edu., CSKHPKV, Palampur	1	22/8/2013(25)
Economics and Marketing strategies of protected cultivation or the farmers at CSKHPKV, Palampur	1	1/9/2014 (30)
Lecture delivered to the farmers in training programme organized by HPCDPP Baijnath under JICA at village Majetely	2	27/9/2013 (35), 28/9/2013(30)
Entrepreneurship in agriculture and project	1	17/1/2014(78)

identification, formulation and evaluation		
Economics of potential crops under protected environments and their marketing. Lecture delivered to RAWE students	2	30/1/2014 (78), 7/2/2014(39), 11/2/2014 (39)
<b>Dr. M.S. Pathania</b>		
Training Course on Mushroom cultivation in IDMP Palampur	4	26/9/2013(36), 27/10/2013 (38), 16/12/2013 (40), 15/1/2014(40)
<b>Dr. Manoj Gupta</b>		
Scientific production and marketing of vegetable crops	2	4-5/7/2013 (37)
Vegetable production and marketing techniques	2	1-2/8/2013(28)
Economic development through cash crops production and marketing	2	11/9/2013, 13/9/2013 (44)
Production and marketing of vegetable crops	2	26/10/2013, 28/10/2013 (25)
Production and marketing of cash crops	2	17-18/1/2014(30)
Marketing strategies for strawberry	2	5/3/2014 (15)
Production and marketing of strawberry	1	23/5/2014(10)
Sustainable Hill Agriculture	4	29/8/2013, 31/8/2013(30), 6-7/9/2013(25)
Scientific methods of crop production for higher productivity	2	16-17/9/2013(30)
Sustainable Hill Agriculture with special reference to value addition of crops for value addition	3	19-20/9/2013 (27), 21/9/2013 (31)
Scientific management practices for horticultural crops	4	22-23/10/2013 (16), 24-25/10/2013 (18)
Scientific vegetable production for higher income	2	24-25/10/2013(24)
Mushroom cultivation and its value addition	2	19-20/12/2013(15)
Dairy management in hills	2	26-27/12/2013(28)
Latest techniques in crop production and management	1	8/1/2014 (50)
Scientific management practices for off-season vegetable production	5	27/1/2014(45), 28/1/2014 (35), 05/06/2014(10), 6/06/2014(40), 19/6/2014 (40)
Crop Production	2	31/1/2014, 1/2/2014(37),
Production and marketing of cash crops	1	17/4/2013(53)
Vegetable production and marketing management	1	20/6/2013(28)
Marketing options in agricultural crops	3	04/07/2013(23), 17/8/2013 (32), 24/8/13(21)
Various agricultural schemes for farmers in Sirmour district	1	24/7/2013(50)
Importance of cooperatives in marketing of vegetable crops	1	9/9/2013(70)
Cash crops production through latest technologies and pre-sowing camp of Toria FLD	1	27/9/2013(42)
Farmer scientist interaction on IPM and marketing on vegetable crops	1	4/12/2013(42)

Off Season vegetable production and marketing techniques	1	25/4/2014(35)
Agricultural Production and marketing practices	1	6/06/2014(181)
<b>Dr. Dinesh Singh Yadav</b>		
Training to BTMs/ABTMs (1 lecture)	1	10
Two days training on Fostering marketing linkages (1 lecture)	1	19
Two days training on Promotion & strengthening of SHGs (1 lecture)	1	19
Two days training on Crop diversification (1 lecture)	1	17
Farmers scientist interaction (1 lecture)	1	34
Two days Farmers scientist interaction (1 lecture)	1	25
Five days training on Integrated farming (3 lectures)	1	20
Crop diversification (2 lectures)	2	50
Five days training on Integrated farming (4 lectures)	4	204
Four days training on Integrated farming (2 lectures)	2	94
One day awareness cum training programme on Protection of plant varieties & farmers' right act	1	127
Two days Farmers scientist interaction programme (1 lecture)	1	25
Organic pest management (1 lecture)	1	35
Two days training on Entrepreneurship development (2 lectures)	2	40
Two days training on Exotic vegetable cultivation (1 lecture)	1	18
Three days training on General horticultural practices (2 lectures)	2	70
Five days training on Integrated farming (3 lectures)	3	60
Two days training on Production & protection techniques in vegetables (1 lecture)	1	34
Three days training on Value addition of fruits & vegetables (1 lecture)	1	18
Off season vegetable production & protection technology (2 lectures)	2	62
Eco friendly pest management in vegetables (1 lecture)	1	17
Soil health & fertility management (1 lecture)	1	20
Micro nutrient management in paddy (1 lecture)	1	32
Formation & management of SHGs (2 lectures)	2	100
Soil & water conservation technologies for sustainable agriculture (2 lectures)	2	100
Rabi crop production & protection technology (2	2	70

lectures)		
Marketing of vegetable crops (2 lectures)	2	40
Mushroom production technology (2 lectures)	2	80
Integrated nutrient management (1 lecture)	1	35
Integrated pest management in vegetable crops (1 lecture)	1	19
Crop production techniques for kharif crops (1 lecture)	1	21
Agri business & Marketing of agricultural produce (2 lecture)	2	42
Crop production techniques for kharif crops (2 lecture)	2	44
Vermi-composting technology and organic input production (2 lectures)	2	32
Integrated farming systems (2 lectures)	2	58
Integrated disease management in kharif crops (1 lecture)	1	35
IPM in vegetable crops (1 lecture)	1	30
Processing of fruits & vegetables (1 lecture)	1	33
Bio intensive pest management (1 lecture)	1	17
Fruit production and protection technology (1 lecture)	1	52
Bio intensive pest management (1 lecture)	1	31
Training on bee keeping (2 lecture)	2	46
Training on Integrated agriculture (1 lecture)	1	21
Farmers fields school on pea (1 lecture)	2	53
Farmers fields school on Paddy (1 lecture)	2	50
Kisangoshthi(1 lecture)	1	100
Farmers fair (1 lecture)	1	700
Kisan Goshthi(1 lecture)	1	150
SAC meeting , KVK Sundernagar	1	57
Exhibition in farmers' fair , JICA	1	700
Exhibition at State level Shivratri Fair , KVK Sundernagar, Baijnath	1	3000
Exhibition in PPV& FRA programme at KVK sundernagar	1	127

## 9.2 Radio/ Television Talks: Nil

## 10. Publications

### 10.1. Research publications

1. Anup Katoch (forthcoming). Society, law and gender justice in India (An astute analysis of women empowerment through social, political and economic opportunities), Himachal Journal of Agricultural Research
2. Chauhan S K (2013). Maize marketing in Himachal Pradesh. *Indian Journal of Agril Marketing*, 27(1): 41-58

3. Chauhan S K; Dalvinder Singh and Sakshi Chouhan (2014) Impact study of sericulture project at Jakatkhana Distt Bilaspur H.P. In proceeding of *National Seminar on organic Agriculture* CSKHPKV, Palampur : 135.
4. Dhiman Pallavi and MS Pathania (2013) Land and Water Resources Utilization in Agriculture: A Study of Kangra District of Himachal Pradesh. *Himachal Journal of Agricultural Research*, 39(2): 140-148
5. Kangotra Arti and S K Chauhan (2013).Economic viability of button mushroom cultivation in Himachal Pradesh, India”. *Ind Jour. of Agril- Res*, 48(2):134-139
6. Kumar Virender and Najibullah (2013) and use and cropping pattern changes in Himachal Pradesh: an analysis of four decades”, *Himachal Journal of Agricultural Research*, 39(1):1-12.
7. Kumar, Virender (2013). Sustaining Foodgrains Production in India: Challenges and Opportunities.*IASSI Quarterly: Contributions to Indian Social Science*; 32(2):65-76.
8. Kumar, Virender, Harbans Lal, K D Sharma and Suneel Thakur (2013) Economic Viability of Sprinkler Irrigation in Vegetable Production in Temperate High Hills of Himachal Pradesh, *Indian Journal of Agricultural Economics*, 68(3):364.
9. LalHarbans, Gupta Varsha, Kumar Virender and Sharma KD (2013) Regulated markets in Kullu district of Himachal Pradesh: An economic analysis of performance and investment. *Agricultural Economics Research Review*, 26 (conference No.) p 208.
10. Mohind, ZD and Harbans Lal (2013). Are marketing intermediaries exploiting hill farmers in India? An economic analysis of vegetable supply chains in Himachal Pradesh.*Agricultural Economics Research Review*, 26 (Conference Number):254.
11. Mohind, ZD and Harbans Lal (2013). Are marketing intermediaries exploiting hill farmers in India? An economic analysis of vegetable supply chains in Himachal Pradesh.*Agricultural Economics Research Review*, 26 (Conference Number):254.
12. Rana, RS, RM Bhagat, Vaibhav Kalia, Harbans Lal and Vijayashri Sen (2013).Indigenous perceptions of climate change vis-à-vis mountain agricultural activities in Himachal Pradesh.*Indian Journal of Traditional Knowledge*, 12 (4):596-604.
13. Sharma H R and Chauhan S K (2013). Contractual arrangements and transaction costs: Evidence from high value of Western Himalayas. *Ind. Jour. of Ag Econ*. 68(3): 486-487.
14. Sharma H R and Chauhan S K (2013). Agricultural transformation in trans Himalayan Region of H.P cropping pattern technology adoption and emerging challenges AERA. *Agricultural Economics Research Review* : 173-180
15. Sharma H R and Chauhan S K (2013).Impact of lower custom duty on the cultivation of High value cash crops-A study of HOP in Himachal Pradesh.*Indian Journal of Agril marketing*; 27(1):204-211.
16. Sharma KD (2013). Rapporteur’s report (Plenary Session), Agricultural Officers’ Workshop on Vegetable Crops 2013.Organised by Director of Extension Education, CSKHPKV at Palampur, September, 12, 2013.
17. Sharma KD, Pathania MS and Harbans Lal (2013).Changing pattern of consumption of processed food products in Himachal Pradesh – A Household Survey.*Indian Journal of Agricultural Economics*, 68 (3), pp 494-495

18. Sharma KD, Sharma PK and Thakur DR (2013). Water Sources of Western Himalayas and Implications for Livelihood Security. Paper for presentation in ISAE Seminar on Water and Food Security in India held at Institute of Development and Planning, Amritsar, October 18-19, 2013.
19. Sharma PK and Sharma KD (2013). Sustained hydrology and livelihood security in Western Himalayas. Book Chapter submitted for publication in 'Sustained Hydrology for Livelihood Security' being edited by Dr. V L Chopra.
20. Sharma, S K and Kumar, Virender (2012). 'Improving Economic Viability of Small and Marginal Landholders through Vegetable Cultivation in Himachal Pradesh'. *Agricultural Situation in India*, 69 (9): 493-497.
21. Thakur Neha S K Chauhan (2014). Economic analysis of garlic in Kullu district of H.P. In proceeding of *National Seminar on Organic Agriculture* CSKHPKV, Palampur :135.
22. Yumnam Anjoo and Chauhan S K (2013). Rice production in India: Trends and determinants. *Agricultural Economics Research Review* : (conf special): 197

## 10.2. Popular articles

1. Gupta Manoj (2013). Krishi Vibhag dwara chalayee ja rahi vibhinn yojnaye- II. *Krishi Vigyan Patrika*. Vol 18 Issue 378:6-7
2. Gupta Manoj (2013). Krishi Vibhag dwara chalayee ja rahi vibhinn yojnaye- II. *Krishi Vigyan Patrika*. Vol 19 Issue 379:8-9
3. Gupta Manoj (2013). Krishi Vigyan Kendra Sirmour: Uddeshya, Prathmikayen avan Gatividhiyan. *Krishi Vigyan Patrika*. Vol 19 Issue 380:7-9
4. Gupta Manoj (2014). Zila Gramin Vikas Pradhikaran ki Vibhinn yojnaye. *Krishi Vigyan Patrika*. Vol 19 Issue 381:6-7
5. Rahi, Shakuntla., Thakur, S.K., Sood, P., Yadav, D.S., Choudhary, A.K., and Arya, K. 2013. Upscaling of cabbage based profitable cropping sequence in high hills wet temperate zone of Mandi district. *Indian Farmers' Digest* (March 2014): 47 (3)-36-37.
6. Sharma K.D , Mahinder Pathania and Parveen Sharma –Sanrakshit kheti ka mahatv sambhavnayen avam aarthiki Parvatiya Khetibari. *Harit Grih Visheshank* 2014
7. Sharma K.D.& Virender Kumar “Pahari kshetron mein sabji utpadan ek badiha aarthik vikalp Giriraj Saptahik: (Nov 6, 2013) page-6
8. Sood, Pankaj.,Yadav, D.S. and Thakur, S.K. 2013. Pest and disease management in brinjal. *Giriraj* (July 3, 2013), 35 (40):5.
9. Sood, Pankaj.,Yadav, D.S. and Thakur, S.K. 2013. Pest and disease management in paddy. *Giriraj* (July 17, 2013), 35 (42):5.
10. Verma Ranjana, Anupama Sandal and K.D.Sharma- Tudai uprant harit grih utpaadon ki sambhaal evam vitran Parvatiya Khetibadi a Harit Grih bisheshank
11. Yadav, D.S.,Sood, Pankaj. and Thakur, S.K..2013. Participatory watershed management. *Giriraj* (August 28, 2013), 35 (48):5.



### **10.3 Pamphlets**

Bala, B. (2013) Jaivik Krishi ke liye panjikanan avum pramanikaran- kisanon ke liye ek margdarshika, CSK HPKV, HAREC, Bajaura.

### **10.4. Books/ Booklets/Book Chapters:**

Gupta Manoj, SS Paliyal and P Mittal (2013) Organic farming in hills: An economic analysis of Vermi composting. In book Hill Agriculture: economics & sustainability by PK Sharma and S Dwivedi. New India publishing Agency, N Delhi.pp 129-143

### **10.5. Preparation of Reports**

#### **(A) Research Projects/ Bulletins/ Mimeographs/ Brochure**

##### **Dr K D Sharma**

Sharma KD, Pathania MS, Brij Bala and Gupta Manoj (2013).Developing Technologies for Protected Cultivation in Himachal Pradesh under RKVY-- Economics and Marketing Strategies (detailed report).Department of Agricultural Economics, Ext. Education & Rural Sociology, CSK HPKV, Palampur.Publication No 66, pp 122+v.

Sharma KD, Pathania MS, Brij Bala and Gupta Manoj (2013).Developing Technologies for Protected Cultivation in Himachal Pradesh under RKVY-- Economics and Marketing Strategies (brief report).Department of Agricultural Economics, Ext. Education & Rural Sociology, CSK HPKV, Palampur.Publication No 66, pp 36.

Pathania MS and Sharma KD (2014). Evaluation of Integrated Watershed Management Project (IWMP-I to V) in Rampur block of Shimla district. Department of Agricultural Economics, Ext. Education & Rural Sociology, CSK HPKV, Palampur.

Sharma KD (2014). Perspective Plan of College of Agriculture under Rashtriya Uchchar Shiksha Abhiyan (RUSA).Draft Report submitted to Dean, Postgraduate Studies, CSKHPKV, Palampur, pp 10.

Sharma KD (2014). Annual Progress Report of Dhauladhar Hostel for the Year 2013. Student's Welfare Organisation, CSKHPKV, Palampur, pp 4.

##### **Dr.S.K.Chauhan**

S K Chauhan (2013) Documentation and impact study of sericulture development programmes in Himachal Pradesh. Department publication No. 67

S K Chauhan (2014) Impact study on special central assistance (SCA) for sericulture project at Jakatkhana. Department publication No. 68

Chauhan (2014). Teaching manual on Project Evaluation and Monitoring.

##### **Dr.J.S.Guleria**

Guleria J.S., and Ashok Kumar 2014 "Evaluation Report of preparatory Phase of Integrated Watershed Management programme-1V( IWMP- I) Solan District of Himachal Pradesh. Submitted to Deptt. of Rural Development, Govt .of Himachal Pradesh.

Guleria J.S., and Ashok Kumar 2014 “Evaluation Report of preparatory Phase of Integrated Watershed Management programme-II( IWMP-II) Amb,Una District of Himachal Pradesh. Submitted to Deptt. of Rural Development, Govt .of Himachal Pradesh

**Dr.Ashok Kumar**

Kumar, Ashok, Chauhan, S.K. and Katoch, Anup (2013)“Evaluation of preparatory phase of integrated watershed management programme (IWMP-I to III) in Mehla block of Chamba district, Himachal Pradesh. Submitted to Department of Rural Development, Government of Himachal Pradesh.

**Dr.Virender Kumar**

Estimation of Cost of Cultivation of Commercial Crops in Himachal Pradesh: Potato, Cabbage and Cauliflower. Research Report No. 62.

Estimation of Cost of Cultivation of Commercial Crops in Himachal Pradesh: Abridged Report (2010-2013). Research Report No. 64.

**Dr.Harbans Lal**

Evaluation of preparatory phase of IWMP, Anni-II, District Kullu, Himachal Pradesh.

As a Team member: Report on field verification of organic farming under RKVY project in Shimla district (HP).

**Dr. D.S.Yadav**

Keshva, SK Thakur, Panakj Sood, DS Yadav, Devinder Tiwari, Ajaib Singh, Permod Sharma and Charanjeet Singh. 2013. Annual report 2012-13. Zonal Project Directorate, Zone I (English).p. 75.

Ajmer Singh, DS Yadav, Pankaj Sood and Udit Jain.(2013). Annual report 2012-13. Zonal Project Directorate, Zone I (Hindi), December 2013. p. 79.

**10.6 Participation and paper presentation in seminars/conferences/workshops etc.**

Yumnam Anjoo and Chauhan S K (2013). Rice production in India: Trends and determinants, paper presented during 21<sup>st</sup> annual conference of AERA held at SKUAST, Srinagar during 10-12 September, 2013.

H R Sharma and S K Chauhan (2013). Agricultural transformation in trans Himalayan Region of H.P cropping pattern technology adoption and emerging challenges area, paper presented during 21<sup>st</sup> annual conference of AERA held at SKUAST, Srinagar during 10-12 September, 2013.

Thakur Neha S K Chauhan (2014). Economic analysis of garlic in Kullu district of H.P. Paper presented in National Seminar on Organic Agriculture, held at CSKHPKV, Palampur on 28.05.2014.

Chauhan S K; Dalvinder Singh and Sakshi Chouhan (2014).Impact study of sericulture project at Jakatkhana Distt Bilaspur H.P. Paper presented in preceding of National Seminar on Organic Agriculture, held at CSKHPKV, Palampur on 28.05.2014.

Attended the 21<sup>st</sup> Annual Conference of AERA, held at SKUAST, Srinagar (J&K) w.e.f. Sep.10-12, 2013 and presented the paper , Lal Harbans, Varsha Gupta, Virender Kumar and K D Sharma (2013) Regulated markets in Kullu district of Himachal Pradesh: An economic analysis of performance and investment, *Agricultural Economics Research Review*’ (Conference Number)

Yadav, D.S., Kumar, A., Thakur S.K. and Sood, P. (2013). Factors influencing entrepreneurial behavior of farm women entrepreneurs: A multidimensional analysis. (In) International Conference on Extension Education Strategies for Sustainable Agricultural Development- A Global Perspective. UAS Bangalore, Dec. 5-8, 2013. Pp. 86.

Sood, P., Yadav, D.S. and Sharma, V. 2014. Low cost bottle trap for the management of fruit flies: A success story of KVK Mandi. (In) National Seminar on Organic Agriculture-Challenges & Prospects". CSK HPKV Palampur, May 28-29, 2014. Pp. 171. (paper presented by first author)

Sood, P., Prabhakar, C.S., Yadav, D.S. and Thakur, S.K. 2014. Popularizing IPM of Fruit Flies in Cucurbits and Subtropical Fruits through an Area Wide Approach in North Western Himalaya. (In) 9<sup>th</sup> International Symposium on Fruit Flies of Economic Importance (ISFFEI) at Bangkok (Thailand) w.e.f 12-16 May, 2014. Pp. 103. (paper presented by second author)

## **11. Faculty Improvement**

### **11.1. Trainings, summer/winter school/short courses attended**

#### **Dr. Anup Katoch**

Attended One day consultation focusing on gender and climate change in the Indian Himalayan Region at Shimla organized by India Country Office, International Union for Conservation of Nature (IUCN)

#### **Dr. D.S. Yadav**

Two days training programme on “**Crop production and fodder management**” at CSK HPKV Palampur w.e.f. March 11-12, 2014

#### **Dr. Manoj Gupta**

Attended 21 days training programme entitled, “vegetable production under changing climate scenario” held from September, 1- September 21, 2012 at centre of advanced faculty training in horticulture (vegetables), department of vegetable science, Dr. Y S Parmar University of Horticulture & Forestry Nauni-Solan (HP) 173230

### **11.2. Participation in conferences/seminars/symposia/workshop etc.**

#### **Dr. M S Pathania**

- Attended World Congress on Agro forestry at New Delhi w.e.f Feb 10-14, 2014

#### **Dr. K.D. Sharma**

- Attended Workshop on Protected Cultivation organized by Director of Research, CSKHPKV, Palampur on dated 05-08-2013
- Attended Wheat Workshop organized by Directorate of Extension Education, CSKHPKV, Palampur on dated September 11, 2013
- Attended Agricultural Officers Workshop on Vegetable Crops organized by Directorate of Extension Education, CSKHPKV, Palampur on dated September 12, 2013
- Attended Rabi Workshop organized by Directorate of Extension Education, CSKHPKV, Palampur on dated September 21, 2013
- Attended Agri-Fest (Krihi Mahotsava, 2013) organized at CSKHPKV, Palampur November 22-23, 2013

- Attended Second Convocation of CUHP at Shahpur, District Kangra (HP), February 12, 2014

#### **Dr. Virender Kumar**

Attended 21<sup>st</sup> Annual Conference of AERA, held at SKUAST, Srinagar (J&K) w.e.f.Sep.10-12, 2013.

#### **Dr. Harbans Lal**

Attended 21<sup>st</sup> Annual AERA Conference on "Sustainable Agricultural Growth for Improving Rural Livelihood Security held at SKUAST, Kashmir from 10-12 09.2013 and presented the paper "Regulated markets in Kullu district of Himachal Pradesh: An economic analysis of performance and investment.

Attended 73<sup>rd</sup> Annual AERA Conference of Indian Society of Agricultural Economics held at National Academy of Agricultural research management, Hyderabad from 18-20.12.2013 and presented the paper "Economic viability of sprinkler irrigation in vegetable production in temperate high hills of Himachal Pradesh.

Attended and participated in Agricultural Officers' workshop on Rabi crops held at CSKHPKV, Palampur on 21.10.2013.

Attended State level KVK workshop held at, CSK HPKV, Palampur on 09.10.2013.

#### **Dr. D.S. Yadav**

Attended and participated in "Zonal Workshop of KVKs of Zone -1" at PAU, Ludhiana, w.e.f. July 5-7, 2013.

Organized and attended "Scientific Advisory Committee Meeting" of KVK Sundernagar on November 7, 2013 at KVK Sundernagar.

Attended and presented a paper in "International Conference on Extension Education Strategies for Sustainable Agricultural Development- A Global Perspective". UAS Bangalore, Dec. 5-8, 2013.

Attended and participated in "Annual Action Planning Workshop of KVKs" at CSKHPKV, Palampur on March 20, 2014.

#### **Dr. Manoj Gupta**

Installed exhibition at State Level workshop of KVKs of HP.

Attended National Symposium on Emerging Issues in Plant Health Management held at YSPUHF, Nauli Solan on Sept 28-29, 2012.

Participated in Scientist Advisory Committee Meetings on 27<sup>th</sup> Nov, 2012 & 22<sup>nd</sup> March 2013 at KVK, Dhaulakuan.

### **12. Miscellaneous Activities/ Information**

#### **Dr. S.K.Chauhan**

- Convener Academic Committee of the Department
- Evaluated thesis for Master's research in Agricultural Economics of Anand University
- Evaluated 6 research papers for the Indian Jour.of Agril. Mktg., Ind.Jour.of Dairy Science, Journal of Agricultural Economics & Development and Agricultural Research Communication Centre Journal as a referee.

- Acted as superintendent of examination for UG exams on 24.12.2013; 26.12.2013 ; 22.03.2014
- Attended CIC, CAC workshops and CMU meetings for NAIP project on biopesticides and presented progress reports
- Acted as team member for the crops on maize and pulses
- Prepared concept note on “What university can do in Chamba district?”
- Framed “Quality objectives for 2014-15 of the Department and prepared half page note on the progress of the quality objectives set up for academic year, 2013-14”.
- Acted as member of anti ragging committee
- Conducted comprehensive examinations of five M Sc final year students as convener.
- Performed the duty of HOD from time to time.
- Acted as member kisan gosthi committee of the department for kisan mela held on November, 2013.
- Prepared proposals for board of studies in introducing farm management and human rights education course
- Acted as member of faculty BHU Varanasi
- Acted as external expert for the interview of project fellow at CUHP TAB Shahpur
- Acted as member executive for the society of agricultural economics, Mumbai
- Acted as external expert for the evaluation of research reports in the course no. ECN 514 at CUHP, Shahpur
- Acted as member editorial board of Himachal Journal of Agricultural Research (HJAR)
- Prepared institutional development proposal for implementation of RUSA at CSK HPKV, Palampur
- Member Executive Committee of ISAE, Mumbai

**Dr. Ashok Kumar**

- NCC Officer of the CSKHPKV, Palampur.
- Member of Exposition Committee, College of Agriculture, CSKHPKV, Palampur for 2012-13.
- Paper setter for entrance examination of M.Sc Ag. Econ, P.A.U, Ludhiana.
- Paper setter of Dr. Y.S. Parmar Univ. of Horticulture and Forestry, Solan of Course ESE-484.
- Paper Evaluator of Dr. Y.S. Parmar Univ. of Horticulture and Forestry, Solan of Course ESE-484.
- Member of the Board for conducting NCC “BEE” certificate Examination at Post Graduate Degree College, Dharamshala on February 03, 2013.
- Member of the Board for conducting NCC “CEE” certificate Examination at Bilaspur on February 17, 2013.

- Deputy Camp commandant at combined NCC, Annual Training Camp at GSSS, Rait w e f 21-07-2012 to 30-07-2012.
- Member of Anti-ragging committee, member of discipline committee for various functions of the university.
- Member of Editorial Board of Magazine, Himjyoti of College of Agriculture, CSKHPKV, Palampur.
- Member of Editorial Board of Himachal Journal of Agricultural Research, CSKHPKV, Palampur.
- Member of Core Committee of COTPA-2003 (Anti Tobacco Law) of CSK HPKV, Palampur.
- Member of Board of Studies, College of Agriculture, CSKHPKV, Palampur.
- Prepared a report on Present Status and Road Map of Agriculture in Himachal Pradesh.

**Dr. K.D.Sharma**

- Expert Referee, Indian Journal of Agricultural Marketing.
- Expert Referee, Agricultural Research Communication Centre, Karnal -132001
- Expert Referee, Journal of Research, PAU Ludhiana

**Dr. Virender Kumar**

1. Prepared the Results Framework Document (RFD)-2012-13 of the University as Nodal Officer along with the team members.
2. Nodal Officer, RKVY, CSKHPKV, Palampur for liasioning with ISEC, Bangalore for the impact assessment of RKVY projects in the University.
3. Member, 'Oilseeds Group including flax and Vegetable Crops' constituted at the University Level.
4. Member, Technical Committee at the College level to prepare/compile technical reports. Prepared the Annual Report of the College.
5. Incharge PG Lab
6. Member of the Research Committee of the Department.
7. Worked as superintendent and invigilator in UG & PG examinations.
8. Evaluated Ph.D. Thesis from IARI, New Delhi.
9. Peer reviewed the research articles for the journals
10. Attended to the other assignments of the higher authorities from time to time.
11. Prepared a presentation titled, 'Centre-State Relationship in Agricultural Universities' for the Hon'ble VC for the 38<sup>th</sup> Vice Chancellor's Conference to be held at Birsa Agricultural University, Ranchi.
12. Prepared Key Note Address on National Income Estimation (Nov 2-6, 2013) for the Hon'ble VC to be delivered on Nov. 2, 2013 at Dharamshala in the workshop organized by the DES, Shimla

**Dr. M.S.Pathania**

- Krishi Mahautsav2013 organised on Nov 22 -23 2013 by Agro-club. In this programme act as convener on 22 Nov for the arrangement of fixing chart, arranging pamphlets on tables, presentation of Departmental activities in the morning session. On 23 Nov act as convener for the presentation of Departmental activities and issue of booklets in the evening session
- Presiding Officer, Parliamentary (Lok shabha) election- May 2014

- Counting Supervisor, Parliamentary (Lok shabha) election- May 2014

#### **Dr. Harbans Lal**

- 1) Worked in the General work and lab committee of the department during the year.
- 2) Member research team wheat & barley group.
- 3) Performed the duties of Presiding Officer in the general elections for Lok Sabha-2014

#### **Dr. D.S. Yadav**

- Conducted mustard station trial during Rabi 2013-14 (Four entries & four replications)
- Evaluation of promising basmati cultivars of paddy in Balh valley at six locations (Coordinator)
- Evaluation of promising wheat varieties (HPW349 & HPW236) at three locations (Coordinator)
- Integrated management of paddy shoot borer & leaf folder in paddy at five locations (Associated)
- Integrated management of fruit borer in tomato at six locations (Associated)
- Integrated management of gram pod borer in chickpea at seven locations (Associated)
- Management of white grubs in off season peas at six locations (Associated)
- Integrated management of powdery mildew and mite pests in capsicum under protected conditions at two locations (Associated)

#### **Dr. Manoj Gupta**

- Paper setter for NRE 321 Marketing and Trade of Forest Produce, BSH 321 Entrepreneurship Development and Communication skill and NRE 111 Introductory Economics courses
- Paper evaluator for BSH 321 Entrepreneurship Development and Communication skill and NRE 111 Introductory Economics courses

### **13. Awards and Honors**

#### **13.1 Faculty:**

##### **Dr. Virender Kumar**

- Member, Executive Committee (2013-2014), Agricultural Economics Research Association, New Delhi.
- Member, Executive Committee (2014), Society of Economics and Development, Amritsar.
- Dr Virender Kumar was elected Member, Executive Committee (College of Agriculture), Himachal Pradesh Agricultural University Teachers' Association (HPAUTA), 2014.

##### **Dr. D S Yadav**

- Indian Council of Agricultural Research, *Zonal Best KVK Award* (Zone I) 2012-13
- *Certification of Appreciation* from DDG (Argil. Ext.) Indian Council of Agricultural Research, New Delhi
- *Co-editor* of Proceedings of 7<sup>th</sup> National Conference of KVKs
- Acted as *reviewer* for African Journal of agricultural Research
- *Rapporteur* in Zonal workshop at PAU Ludhiana (05-07.07.2014)

## Dr. S K Chauhan

Four students (Mahima Ghabru, Arti Thakur, Sanjana Bhowmik and Anjoo Thakur) of B Sc 4<sup>th</sup> year class were given coaching by conducting extra classes and mock tests for appearing in JRF/Manage, etc who qualified and took admission in various institutions.

### 13.2 Students:

- Aditi Raina (A 2013-30-010), a student of M Sc first year of this department participated in the Finale of DANCE HIMACHAL DANCE, a state level dance competition organised by DIVYA HIMACHAL at Dharamshala on 06.08.2013. She secured A<sup>++</sup> grade in the competition.
- Neha Thakur (A 2012-30-006), a student of M Sc Agriculture Final year presented research paper on “Economic analysis of garlic in Kullu district of H.P” in National Seminar on **Organic Agriculture**, held at CSKHPKV, Palampur on 28.05.2014.

### 13.3 Achievements in Sports by Students of the Department: Nil

**13.4 Achievements in Academics by Students of the Department** Eight students of B Sc 4<sup>th</sup> year class were given coaching by conducting extra classes and mock tests for appearing in JRF/Manage, etc who qualified the JRF and took admission in various institutions.

#### a) Student's Rank in JRF, 2014

Sr. No.	Name of the student	All India Rank
1.	Mahima Ghabroo (A-2010-01-34)	20
2.	Arti (A-2010-01-15)	37
3.	Sanjana Bhawmik (A-2010-01-66)	57
4.	Anjoo Thakur (A-2010-01-11)	93

### 14. Visits Abroad: Nil

### 15. New Assignments:

#### Dr. K D Sharma

Warden, Dhauladhar Hostel (UG Boys), Student's Welfare Organization, CSK HPKV, Palampur (w.e.f. September, 2013)

Member, Board of Studies for the Year 2014-15

#### Dr. J S Guleria

Coordinator Polyhouse survey team on health of polyhouses.

### 16. List of Visitors in the Department:

Date of visit	Name & address of visitor	Purpose	Name of scientist(s) with whom interacted
02.05.2014	Dr Rajinder Kaur Kalra Prof Extension Education PAU, Ludhiana	Role of extension scientists in teaching, research and extension education and extension methodologies in changing scenario	Dr A K Chaubey
07.06.2014	Kanwal Narain Singh and Ananda G Vadiuelu , TERI, India Ltd, New Delhi	Research in the area of natural resource(s) management in the tribal areas	Dr S K Chauhan and Dr M S Pathania



**17. New Initiatives: Nil**

**18. Revolving Fund**

- During the period under report the department has generated income of Rs.66, 914 through zexing charges.

**19. Retirement**

- Dr. D R Thakur, Principal Scientist Superannuated on 30<sup>th</sup> April 2014

**20. Obituary:-**Ram Nath who was working as beldar died on 10.6.2014 due to prolonged illness.

