ANNUAL REPORT (April-2017-March-2018)

APR SUMMARY

(Note: While preparing summary, please don't add or delete any row or columns)

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	80	1320	282	1602
Rural youths	02	10	10	20
Extension functionaries	07	63	55	118
Sponsored Training	03	150	0	150
Vocational Training	0	0	0	0
Total	**92**	**1543**	**347**	**1890**

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	50	20.0	50
Pulses	245	84.85	245
Cereals	26	10.0	26
Vegetables	-	-	-
Other crops	-	-	-
Hybrid crops	-	-	-
Total	**321**	**114.85**	**321**
Livestock & Fisheries	-	-	-
Other enterprises	65	12.0	65
Total	**65**	**12.0**	**65**
Grand Total	**386**	**126.85**	**386**

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	09	27	27
Livestock	-	-	-
Various enterprises	04	10	10
Total	**13**	**37**	**37**
Technology Refined			
Crops	-	-	-
Livestock	-	-	-
Various enterprises	-	-	-
Total	-	-	-
Grand Total	**13**	**37**	**37**

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	529	5490
Other extension activities	8	mass
Total	**537**	**5490**

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Awar e-ness	Other enterprise	Total
	Text only							
	Voice only							
	Voice & Text both							
	Total Messages							
	Total farmers Benefitted							

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	337.85	608570.00
Planting material (No.)	-	-
Bio-Products (kg)	01	24000.00
Livestock Production (No.)	-	-
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	347	26610.00
Water	-	-
Plant	-	-
Total	**347**	**26610.00**

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	
2	Conferences	
3	Meetings	
4	Trainings for KVK officials	
5	Visits of KVK officials	
6	Book published	2
7	Training Manual	1
8	Book chapters	
9	Research papers	5
10	Lead papers	
11	Seminar papers	
12	Extension folder	10
13	Proceedings	1
14	Award & recognition	
15	On going research projects	

DETAIL REPORT OF APR-2017-18

1. GENERAL INFORMATION ABOUT THE KVK

1.1. Name and address of KVK with phone, fax and e-mail

Address	Telephone		E mail
	Office	FAX	
Krishi Vigyan Kendra, Baghpat – 250 609 www.baghpat.kvk4.in	0121-2969011	-	baghpatkvk1@gmail.com

1.2 .Name and address of host organization with phone, fax and e-mail

Address	Telephone		E mail
	Office	FAX	
Sardar Vallabhbhai Patel University of Agriculture, Meerut www.svbpmeerut.ac.in	0121-2888522, 2888511	0121-2888505, 2888540	deesvpuat2014@gmail.com

1.3. Name of the Programme Coordinator with phone & mobile No

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Gajendra Pal	-	09456449671	gajendrapal1960@gmail.com

1.4. Year of sanction: 2004 (27–10-2004)

1.5. Staff Position (as on 30th March, 2018)

Sl. No.	Sanctioned post	Name of the incumbent	Design-ation	Discip-line	Pay Scale (Rs.)	Present basic (Rs.)	Date of joining	Permanent / Temporary	Category (SC/ST/ OBC/ Others)	Mobile no.	Age	Email id
1	Programme Coordinator	Dr. Gajendra Pal	Officer Incharge	Agronomy	37400-67000	74370	27.06.87	Permanent	OBC	9456449671	58	gajendrapal@gmail.com
2	Subject Matter Specialist	Dr. Sarita Joshi	SMS/ Asstt. Professor	Home Science	37400-67000	64110	26.08.95	Permanent	Others	9871134441	49	saritajoshi156@yahoo.com
3	Subject Matter Specialist	Er. Sanjay Kumar	SMS/ Asstt. Professor	Agri. Engg.	15600-39100	38200	10.12.03	Permanent	Others	9411986314	47	sanjaytwofour@gmail.com
4	Subject Matter Specialist	Dr. S.P. Singh	SMS/ Asstt. Professor	Agronomy	15600-39100	38710	11.12.03	Permanent	OBC	9458533805	57	sheeshpalsingh777@gmail.com
5	Subject Matter Specialist	Dr. Surendar Kumar	SMS/ Asstt. Professor	Agri. Extn.	15600-39100	29960	18.07.08	Permanent	OBC	9319304168	53	sktanwar_kvkbaghpat @rediffmail.com
6	Computer Programmer	Sh. U.S. Rathi	Programme Asstt.	Computer Science	9300-34800	47600	30.07.07	Permanent	OBC	9012347688	37	uttam.svp@gmail.com
7	Programme Assistant	Dr. Ravindra Kumar	Programme Asstt.	Soil Science	9300-34800	47600	02.08.07	Permanent	OBC	9758987011	41	malikrk04@rediffmail.com
8	Farm Manager	Dr. Bhupendra Kumar	Programme Asstt./ Farm Manager	Plant Breeding	9300-34800	46200	03.09.08	Permanent	SC	9368651430	42	bkdheeraniya75@gmail.com
9	Accountant / Superintendent	Sh. Sanjeev Chandel	O.S. Cum Accountant	Accountancy	9300-34800	58600	10.12.03	Permanent	OBC	9410860477	42	anjeevchandel2012@gmail.com
10	Stenographer	Sh. Praveen Kumar Premi	Stenographer	-	5200-20200	34300	26.12.08	Permanent	SC	9718476096	42	pkpremi1975@gmail.com
11	Driver	Sh. Mangeram	Jeep Driver	-	5200-20200	39200	01.01.96	Permanent	OBC	9761398714	59	-
12	Driver	Sh. Subhash Chand	Driver Cum Mechanic	-	5200-20200	26800	27.07.07	Permanent	Others	9719818397	42	-
13	Supporting staff	Sh. Satish Kumar	Messenger	-	5200-20200	32300	01.01.96	Permanent	Others	9410493902	46	-
14	Supporting staff	Sh. Salekh Chand	Watchman	-	5200-20200	33300	01.12.92	Permanent	Others	9997530844	42	-

1.6. Total land with KVK (in ha) :

S. No.	Item	Area (ha)
1	Under Buildings	3.000
2.	Under Demonstration Units	0.600
3.	Under Crops	8.242
4.	Orchard/Agro-forestry	0.400
5.	Others (Pond, IFS, Lawn etc.)	0.400
	Total	**12.642**

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	2008	510	43.65	2005	N.A.	Completed
2.	Farmers Hostel	ICAR	2008	300	22.92	2005	N.A.	Completed
3.	Staff Quarters (6)	ICAR	2008	400	26.72	2005	N.A.	Completed
4.	Demonstration Units (2)	ICAR	2008	160	11.06	2005	N.A.	Completed
5	Fencing	ICAR	2008	2000 RM	38.43	2005	N.A.	Completed
6	Irrigation channel	ICAR	2008	1000 RM	8.26	2005	N.A.	Completed
7	Threshing floor	ICAR	2008	300	2.34	2005	N.A.	Completed
8	Farm godown	ICAR	2008	60	3.63	2005	N.A.	Completed

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Ran	Present status
Mahindra Marshal Jeep	2005	4,22,192.00	2,10,599	Good
Motorcycle	2006	46,575.00	74871	Good

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Tractor Sonalika	2005	3,44,500.00	Good
12 Disc Harrow	2005	20,275.00	Good
Cultivator	2005	12,265.00	Good
Seed Drill Fert.	2005	19,015.00	Good
Tractor Pulley	2005	1,825.00	Good
Knapsack Sprayer (16 lit.)	2005	714.00	Good
Bund farmer blade	2005	2,860.00	Good
Leveler	2006	5,080.00	Good
Rigertin Far	2006	5,610.00	Good
Two tier tractor trolley	2006	65,106.00	Good
LCD Projector	2007	5700.00	Good

1.8. A). Details SAC meeting* conducted in the year

Date	Name and Designation of Participants	Salient Recommendations	Action taken
13/12/2017	1. Dr. S.K. Sachan, Director Extension, SVPUA & T, Meerut 2. Dr. Sarita Joshi, Actg. Officer Incharge, KVK, Baghpat 3. Dr. R.K. Naresh, Professor SVPUA & T, Meerut 4. Dr. D.K. Singh, Assoc. Professor SVPUA & T, Meerut 5. Dr. Hariom Katiyar, Asstt. Professor SVPUA & T, Meerut 6. Sh. Parshant Kumar, Dy. Director, Agriculture, Baghpat 7. Sh. Indermeet Singh, Dist. Vikas Pravandan, Nabard 8. Sh. Raju, P.V., L.D.M, Baghpat 9. Sh. Jagat Singh, Cane Development Officer, Baghpat 10. Sh. Adiprakesh Tyagi ,Progressive Farmer, Badagaon 11. Sh. Ankit Kumar, Agriculture Department, Baghpat 12. Dr. (Er.) Sanjay Kumar, Scientest/Asstt. Proff. (Ag. Engg.), KVK Baghpat 13. Dr. S.P. Singh, Scientist (Agro.), KVK Baghpat 14. Dr. Surendar Kumar, Scientist (Agri. Extn.), KVK Baghpat 15. Smt. Rakesh, Progressive Farmer, Mavikala, Baghpat 16. Smt. Rajviri Progressive Farmer, Sankarod, Baghpat 17. Sh. U.S. Rathi, Programme Asstt. (Computer), KVK Baghpat 18. Dr. Ravindar Kumar, Prog. Asstt. (Soil), KVK Baghpat 19. Sh. Sanjeev Chandel, O.S., KVK, Baghpat 20. Dr. R.P. Kannaujia, Director, SYND Bank, Baghpat 21. Dr. Bhupendar Kumar, Farm Manager, KVK Baghpat 22. Sh. Jagar Singh, Cane Development Invigilator, Baghpat 23. Sh. Dharamvir Singh, Incharge, Fisheries, Baghpat 24. Sh. Shyam Singh, Progressive Farmer, Basi, Baghpat 25. Sh. Jiley Singh, Horticulture Department, Baghpat 26. Sh. P.K. Premi, Stenographer, KVK Baghpat 27. Sh. Subhashchand, Tractor Driver, KVK Baghpat 28. Sh. Salekhchand Sharma, Watchman, KVK Baghpat 29. Sh. Vikas Baliyan, S.R.F. NICRA, Baghapt	1. Director Extension suggested for cluster wise soil testing of farmers' field and fulfills the target of soil testing. 2. Director Extension instructed to take financial sanction (labour) help from NICRA project or take separate sanction for labour for soil tesing. 3. Dr. R.K. Naresh, Professor (Agronomy) suggested to organize training on crop residue management. 4. Dr. R.K. Naresh, Professor (Agronomy) suggested to include training programme on spray of liquid fertilizer. 5. Farmers' representative Sh. Shyam Singh, Basi suggested to organize demonstration on intercropping of sugarcane with sunflower. 6. Director Extension suggested to save water, training and demonstrations on use of hydrogel should be organized. 7. Dr. D.K. Singh, Assoc. Professor suggested that to organize training on balance use of fertilizer. 8. Farmers' representative Sh. Aadi Prakash Tyagi suggested to conduct trainings and demonstration to promote trench method in Sugarcane.	1. The cluster wise soil testing is being done. 2. Soil sampling and testing of NICRA village Sikhera is being done under NICRA project. 3. Two training has been organized on residue management. 4. It has been incorporated in action plan for the year 2018-19. 5. There is no cultivation of sunflower in district Baghpat. So it could not possible. 6. Two OFT and two 20 demonstration on use of hydrogel is being conducted. Training on hydrogel has been incorporated. 7. Already has been conducting. 8. Trench method in sugarcane is being popularized through training, demonstration and kisan gosthies. Presently, intercropping of garlic, onion, cucurbits, mustard and wheat crop is being done through trench method.

**** Attach a copy of SAC proceedings along with list of participants***

2. DETAILS OF DISTRICT (2017-18)

2.1 Major farming systems/enterprises (based on the analysis made by the KVK)

S. No	Farming system/enterprise
1	Agriculture + Animal Husbandry
2	Agriculture + Animal Husbandry + Horticulture

2.2 Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

S. No	Agro-climatic Zone	Characteristics
1	North Western Plain Zone	Sub humid to subtropical climate, maximum and minimum temperature 43 ^{o}C and 3 ^{o}C respectively with average rainfall is about 750 mm.
S. No.	**Agro ecological situation**	**Characteristics**
1	AES – I	Sandy loam to loam soils, normal PH, Good quality irrigation water, Canal/tube-well irrigation
2	AES – II	Sandy loam to loam soils, normal PH, Good quality irrigation water, slightly undulated and unleveled soils

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1	Sandy loam to loam with normal pH	The soils have enough clay to store adequate amounts of water and plant nutrients for optimum plant growth, containing appropriate ratio of sand, silt and clay. Percent of clay content is not as much as to cause poor aeration or to make the working difficult. The soil of the district is containing 7 to 27% clay and approximately equal amount of silt and sand and it has been designated as loam textured soil.	110065

2.4. Area, Production and Productivity of major crops cultivated in the district

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1	Rice	5468	126632.88	23.16
2	Urd	380	2040	5.34
3	Moong	45	270	6.80
4	Arhar	536	4052.16	7.56
3	Wheat	54175	183800	33.93
4	Total oil seeds (Rabi)	1963	30622	15.64
5	Sugarcane	76387	59050206	737.04
6	Jawar (grain)	07	62	8.87
7	Maize	04	88.32	22.08

Source : Statistical magazine, Baghpat 2016

2.5. Weather data: **N.A.**

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	

2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district

Category	Population	Production	Productivity
Cattle			
Crossbred	79556	-	-
Indigenous	19392	-	-
Sheep			
Crossbred	2317	-	-
Indigenous	533	-	-
Goats -	23712	-	-
Pigs			
Crossbred	2393	-	-
Indigenous	7712	-	-
Poultry (Hens and chicken)	70068		
Fish Inland	202 Ha.	1635 Q	30 Q/ Ha.

Source : Statistical magazine, Baghpat 2016

2.7 Details of Operational area / Villages (2017-18)

S. No.	Taluka	Name of the block	No. of the village	Major crops & enterprises	Major problems identified	Identified Thrust Areas
1.	Khekra	Khekra	41	Dairy, sugarcane, paddy, wheat, mustard, moong, arhar, poultry & vegetables	1. Low production in late sown wheat 2. Weed infestation in wheat 3. Reducing production area of pulses due to blue horse 4. White grub attack in sugarcane 5. Red rot in sugarcane 6. Late sowing of sugarcane due to wheat-sugarcane cropping system 7. No use of potash in all crops 8. Deficiency of minor elements and organic	1) To increase productivity of wheat in late sown conditions. 2) Increase milk production in Buffalos. 3) Balance use of fertilizer in sugarcane. 4) Balance use of fertilizer in wheat. 5) Weed management in wheat. 6) Management of pests in sugarcane. 7) To create awareness about human nutrition /nutritional needs to mitigate the problems of nutritional deficiency in
2.	Baghpat	Baghpat Pillna	48 35	Dairy, Sugarcane, paddy, wheat, fodder& vegetables Dairy, sugarcane, paddy, wheat, mustard, moong, arhar,& poultry		

3.	Baraut	Baraut Chhapr-auli Binoli	45 22 18	Dairy, Sugarcane, wheat, fodder, &vegetables crops Dairy, sugarcane, wheat, fodder & vegetables sugarcane, wheat, fodder, mustard, paddy, other enterprises- Dairy	matter in soil 9. Depletion of ground water 10. Low production of old orchards 11. Insect attack in vegetables 12. Low production of milk in milching animals. 13. Long dry period in milch animals 14. Undeveloped marketing system of Agriculture of produces 15. Poor net return in sugarcane based cropping system. 16. Infertility in buffalo and cow. Poor health of animal due to malnutrition.	rural woman & children. 8) Management of mango orchards. 9) Pest and weed management in paddy. 10) Maintenance of soil health. 11) Disease management in okra. 12) Promotion of oilseed and pulse crops. 13) Intercropping with sugarcane. 14) Balance diet with mineral mixture and vaccination to animals. 15) Renovation of old orchards

2.8 Priority/thrust areas

S. No	Crop/Enterprise	Thrust area
1	Wheat	To increase productivity of late sown conditions.
		Weed management.
2	Sugarcane	Management of pests, Drudgery reduction
3	Nutritional Management	To create awareness about human nutrition /nutritional needs to mitigate the problems of nutritional deficiency in rural woman & children.
4	Paddy	Pest and weed management.
5	Soil	Maintenance of soil health.
6	Vegetables	Pest Management and crop husbandry
7	Oilseed and Pulses	Promotion of oilseed and pulses crops.

2.9 Intervention/ Programmes for the doubling the farmers income – during 2017-18 **Demonstrations**

Before Interventions	**Main crop Yield(q/ha)**	**Inter crop Yield(q/ha)**	**Equivalent Yield(q/ha)**	**Cost of cultivation(Rs/ha)***	**Net income(Rs/ha)**	**B.C: Ratio**	**Remark if any**
Intercropping System(Kharif-Rabi-Zaid) -Livestock etc.							
Sugarcane	650	-	650	82000	129250	2.57	

Discussion: Irrigation, Fertilizers, Labour, Land Preparation, Seed, Plant protection (Weed, Pest, disease) *

After Interventions	**Main crop Yield(q/ha)**	**Inter crop Yield(q/ha)**	**Equivalent yield(q/ha)**	**Cost of cultivation(Rs/ha)***	**Net income(Rs/ha)**	**B.C: Ratio**	**Remark if any**
Intercropping System(Kharif-Rabi-Zaid) -Livestock etc.							
Sugarcane + Onion	710	155	710+475=1185	125000	385750	3.08	
Sugarcane + Mustard	680	22	680+220=800	98000	292500	2.98	

Discussion: Irrigation, Fertilizers, Labour, Land Preparation, Seed, Plant protection (Weed, Pest, disease) *

Before Interventions	**Main crop Yield(q/ha)**	**Inter crop Yield(q/ha)**	**Equivalent yield(q/ha)**	**Cost of cultivation(Rs/ha)***	**Net income(Rs/ha)**	**B.C: Ratio**	**Remark if any**
Mono Cropping System(Kharif-Rabi-Zaid) -Livestock etc.							
Sugarcane	600	-	600	82000	113000	2.37	

Discussion: Irrigation, Fertilizers, Labour, Land Preparation, Seed, Plant protection (Weed, Pest, disease) *

After Interventions	**Main crop Yield(q/ha)**	**Inter crop Yield(q/ha)**	**Equivalent yield(q/ha)**	**Cost of cultivation(Rs/ha)***	**Net income(Rs/ha)**	**B.C: Ratio**	**Remark if any**
Mono Cropping System(Kharif-Rabi-Zaid) -Livestock etc.							
Mulching in sugarcane (ratoon)	680	-	680	74000	147000	2.98	
Application of micronutrient (Zinc sulphate, Copper sulphate, Ferrus sulphate, Borax) in sugarcane (plant crop)	720	-	720	85000	149000	2.75	

Discussion: Irrigation, Fertilizers, Labour, Land Preparation, Seed, Plant protection (Weed, Pest, disease) *

Before Interventions	**Main crop Yield(q/ha)**	**Inter crop Yield(q/ha)**	**Equivalent yield(q/ha)**	**Cost of cultivation(Rs/ha)***	**Net income(Rs/ha)**	**B.C: Ratio**	**Remark if any**
Relay Cropping System(Kharif-Rabi-Zaid) -Livestock etc.							
Fodder (Jowar-Wheat)	Wheat= 40	-	40+50=90	58000	86000	2.48	

Discussion: Irrigation, Fertilizers, Labour, Land Preparation, Seed, Plant protection (Weed, Pest, disease) *

After Interventions	**Main crop Yield(q/ha)**	**Inter crop Yield(q/ha)**	**Equivalent yield(q/ha)**	**Cost of cultivation(Rs/ha)***	**Net income(Rs/ha)**	**B.C: Ratio**	**Remark if any**

Relay Cropping System(Kharif-Rabi-Zaid)-Livestock etc.							
Fodder (Jowar) - Blackgram-Wheat	Wheat= 40 Fodder= 200	Urd= 9.6	50+30+40=120	74000	105200	2.42	

Discussion: Irrigation, Fertilizers, Labour, Land Preparation, Seed, Plant protection (Weed, Pest, disease) *

3. TECHNICAL ACHIEVEMENTS

3.A. Details of target and achievements of mandatory activities by KVK during 2017-18

OFT (Technology Assessment and Refinement)				FLD (Oilseeds, Pulses, Other Crops/Enterprises)			
1				2			
Number of OFTs		Total no. of Trials		Area in ha		Number of Farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
10	13	34	37	128.1	126.85	375	386

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers		80		1602	905	529	16770	5490
Rural youth		2		20				
Extn. Functionaries		7		63				
Sponsored		3		150				
		92		1835				

Seed Production (Qtl.)			Planting material (Nos.)		
5			6		
Target	Achievement	Distributed to no. of farmers	Target	Achievement	Distributed to no. of farmers
275.0	337.85	Supply to NSC Meerut	20000	0	0

I.A TECHNOLOGY ASSESSMENT

Summary of technologies assessed under various crops by KVKs

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers
Integrated Nutrient Management	Wheat	*Nutrient management in late sown wheat*	3	3
	Sugarcane	*Site specific nutrient management in sugarcane*	3	3
Varietal Evaluation	Sugarcane	*Introduction of new high yielding sugarcane variety CoS-7250 and CoS-0238.*	3	3
	Wheat	*Introduction of new early sown varieties HD-2967and HD-3086 of wheat*	3	3
	Wheat	*Introduction of new varieties HD-3059 and DBW-71 of wheat*	3	3
	Oat	*Introduction of improved varieties of oat*	3	3
Integrated Crop Management	Sugarcane	*Intercropping of garlic and mustard with autumn sugarcane*	3	3
	Sugarcane	*Intercropping of garlic and onion with autumn sugarcane*	3	3
	Paddy	*Evaluation of direct seeding of paddy*	3	3
Drudgery Reduction	Sugarcane	*Use of sugarcane dethrasher*	2	2

	-	*Use of revolving stool while milking an animal*	2	2
Mechanization	Sugarcane	*Effect of sowing techniques on sugarcane production*	3	3
	Paddy	*Effect of puddling techniques on paddy production*	3	3
Total			**37**	**37**

I.B. TECHNOLOGY REFINEMENT: **Nil**

I.C. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

1. VARAITEL EVALUATION

Problem definition: *Low yield of existing variety (CoS-767)*

Technology Assessed (as the case may be) : *Introduction of new high yielding sugarcane variety.*

KVK, Baghpat conducted a varietal trial to assess the yield potential of new varieties CoS-7250 and CoS-0238 in comparison of existing variety CoS-767, with three treatment including farmer's practice on three locations in 1.2 ha. The crop was sown on 28 to 31 Mar., 2017. Crop was harvested in the month of Feb., 2018 and CoS-0238 variety found suitable option to replace the CoS-767 with increase more than Rs. 65600 additional return per hectare.

Table Performance various varieties of sugarcane

Technology Option	***No.of trials***	***Yield (qtl/ha)***	***% increase in Yield***	***Cost of cultivation***	***Gross Return(Rs /ha)***	***Net Returns (Rs. /ha)***	***BC ratio***
CoS-767 (Farmers Practice)	*3*	575	-	76000	184000	108000	*2.42*
CoS-7250		655	14.41	76000	209600	133600	2.57
CoS-0238		780	35.65	76000	249600	173600	3.28

Scientist: *Dr. Surender Kumar, Extension*

2. VARAITEL EVALUATION

Problem definition: *Low yield due to early sown variety of wheat.*

Technology Assessed (as the case may be) : *Introduction of new early sown varieties of wheat.*

A varietal evaluation trial to assess the yield potential of new varieties HD-2967and HD-3086 in comparison of existing variety DBW-17 has been conducted by KVK, Baghpat, with three treatment including farmer's practice on three locations in 1.2 ha. The crop was sown on 07 to 11 Nov., 2017 and the crop is has been harvested on 12-13 April, 2018 .

Table Performance various varieties of Wheat

Technology Option	*No. of trials*	*Yield (qtl/ha)*	*% increase in Yield*	*Cost of cultivation*	*Grass Return(Rs /ha)*	*Net return (Rs/ha)*	*BC ratio*
Use of DBW-17 (Farmers Practice)	*3*	*44*	-	*38700*	*74800*	*36100*	*1.93*
HD-2967		*52.5*	*19.31*	*38700*	*89250*	*50550*	*2.30*
HD-3086		*51.8*	*17.72*	*38700*	*88060*	*49360*	*2.27*

Scientist: *Dr. Surender Kumar, Extension*

3. Integrated Crop Management

Problem definition: *Low return of sole cultivation of Sugarcane.*

Technology Assessed (as the case may be) : *Intercropping of garlic and mustard with autumn sugarcane.*

KVK, Baghpat conducted a intercropping trial to assess the yield potential of intercropping of garlic (Yamuna Saifed) and mustard (Pusa Jagannath) with Sugarcane varieties CoS-0238 in comparison of existing sole cultivation of sugarcane with three treatment including farmer's practice on three locations in 1.2 ha. The sugarcane was planted on first week of November, 2017 with mustard and garlic. Both the intercrop has been harvested. However, Sugarcane will be harvest in Rabi 2018-19. Final result will be conclude after sugarcane harvesting.

Table Performance of various cropping system

Technology Option	*No. of trials*	*Yield of intercrop (qtl/ha)*	*Gross Return of intercrop (Rs /ha)*	*Cost of cultivation of system*	*Gross Return of system (Rs /ha)*	*Net return of system (Rs/ha)*	*BC ratio*
Sugarcane (Farmers Practice)	*3*	-	-	-	-	-	-
Two row of Mustard between two line of Sugarcane (100 cm)		*18.0*	*63000*	-	-	-	-
Two row of Garlic between two line of Sugarcane (100 cm)		*55.0*	*220000*	-	-	-	-

Rate:- *Mustard @ Rs.3500 per qtl and Garlic @ Rs.0000 per qtl.*

Scientist: *Dr. Surender Kumar, Extension*

4. MECHANINZATION

Problem definition: *Lack of information regarding the planting technique of sugarcane by mechanical mean.*

Technology Assessed (as the case may be) : *Effect of sowing techniques on sugarcane production*

The farmers of the district are using the only conventional technique of sugarcane plantation ie. By using ridger to make furrow and manual placing the sets in furrow since a long time. But they not aware of other planting techniques of the sugarcane due to non-availability of machines like trencher or other planter. To overcome from this problem an OFT was conducted at the farmer's field to demonstrate the effect different planting technique on the productivity of sugarcane crop. For this 3 farmers with three replications was selected along with three treatments. The results of the trial shows the increase in productivity as well as reduction of insect and pest due to solarization of fallow land between the rows. The observation were made in respect of cost of cultivation, field capacity, field efficiency and yield of sugarcane.

The crop was planting on 10 to 12 March, 2017 and the same was harvested on 10 to 17 Feb,. 2018 and supplied to sugar mill.

Table Effect of deep ploughing on the productivity.

Technology Option	***No. of trials***	***Yield (qtl/ha)***	***% increase in Yield***	***Cost of cultivation***	***Gross Return (Rs /ha)***	***Net Returns (Rs. /ha)***	***BC ratio***
Planting of sugarcane by ridger after harrowing (Farmers Practice)	*3*	*610*	*-*	*85000*	*198250*	*113250*	*2.33*
Planting of sugarcane by ridger after ploughing and subsequent rotavator		*745*	*22.13*	*85000*	*242125*	*157125*	*2.84*
Planting of sugarcane by Trencher after ploughing and subsequent harrowing (Recommended Practice)		*910*	*49.18*	*85000*	*295750*	*210750*	*3.47*

Rate:- *Sugarcane @ Rs. 325 per quintal*

Scientist: *Dr.(Er.) Sanjay Kumar, Agril. Engineering*

5. MECHANINZATION

Problem definition: *Lack of of information regarding proper technique of puddling for paddy transplantation.*

Technology Assessed (as the case may be) : *Effect of puddling techniques on paddy production*

The farmers of the district are using the only conventional technique of puddling by using the cultivator to make the paddy field for manual paddy transplantation. But they not aware of other puddling techniques like puddling by rotavator which facilitates to retain the water in the field for longer period than others mean of puddling techniques . To overcome from this problem an OFT was conducted at the farmer's field to demonstrate the effect different puddling technique on the productivity of paddy crop and to decrease the frequency of irrigation for paddy cultivation. For this 3 farmers with three replications was selected along with three treatments. The results of the trial shows the increase in productivity as well as reduction of irrigation water due to proper breakage of inherent capillaries present in the soil . The observations were made in respect of cost of cultivation, field capacity, field efficiency and yield of paddy.

The crop was planting on 15 to 16 July, 2017 and the same was harvested on 10 to 17 Oct. 2017.

Table Effect of puddling techniques on paddy productivity.

Technology Option	***No. of trials***	***Yield (qtl/ha)***	***% increase in Yield***	***Cost of cultivation***	***Gross Return (Rs /ha)***	***Net Returns (Rs. /ha)***	***BC ratio***
Puddling by cultivator (Farmers Practice)	*3*	*44.1*	*-*	*42500*	*132000*	*89500*	*3.10*
Puddling by disc harrow		*45.7*	*3.6*	*42500*	*137100*	*94600*	*3.22*
Puddling by rotavator (Recommended Practice)		*48.4*	*9.7*	*42500*	*145200*	*102700*	*3.41*

Rate:- *Paddy @ Rs. 3000 per quintal*

Scientist: *Dr.(Er.) Sanjay Kumar, Agril. Engineering*

6. DRUDGERY REDUCTION

Problem definition: *Low work efficiency, injury and higher drudgery in sugarcane striping.*

Technology Assessed (as the case may be) : *Use of sugarcane dethrasher.*

Sugarcane is the main crop of district Baghpat. Women are actively involved in dethrasing of sugarcane. This task is done by traditional sickle hence, it is time and energy consuming along with causing drudgery to them. In order to enhance the efficiency and reducing drudgery, KVK, Baghpat conducted a trial by introducing sugarcane dethrasher as T1 for dethrashing of sugarcane leaves in comparison to traditional sickle as farmer practice T2 on five locations.

37.5% labour is saved in dethrashing of sugarcane by using sugarcane dethrasher as compare to traditional sickle. Drudgery is minimized as its been reduced from very exhausted to mild and very painful to pain less activity.

Table Performance of traditional sickle versus sugarcane dethrasher.

Technology Option	***No. of trials***	***Parameter observed***	***Data***	***Results***	
				Saving of time (man days)	***Saving of expenses (Rs./ha)***
T_1 -Traditional sickle (Farmers Practice)	*2*	• *Time* • *Quantity of sugarcane dethrashed* • *Exertion perceived* • *Difficulty perceived* • *Yield (q/ha)* • *Man days*	*= 8 hrs./day* *= 10 qtl. in a day* *= Very exhausted* *= Very painful* *=750* *=75*	*37*	*8400*
T_2 -Sugarcane dethrasher		• *Time* • *Quantity of sugarcane dethrashed* • *Exertion perceived* • *Difficulty perceived* • *Yield(q/ha)* • *Man days*	*= 5 hrs./day* *= 10 qtl. in a day* *= mildly exhausted* *= No pain* *=750* *=47*		

sugarcane dethrasher

Farm women dethrashing sugarcane by using sugarcane dethrasher

Scientist: *Dr. Sarita Joshi, Home science and Dr. S.P. Singh, Agronomy*

7. DRUDGERY REDUCTION

Problem definition: *Poor work efficiency and more physical stress*

Technology Assessed (as the case may be) : *Use of revolving stool while milking an animal.*

Dairy farming has always been a traditional component of rural life in India. Farm women are engaged in milking the animals twice in a day for at least 10-15 minutes once. Women have been performing this activity in squatting posture causing pain in lover back, legs, knees and feet. Lower legs become heavy and stiff due to accumulation of blood in lower extremities. KVK, Baghpat conducted a assessment trial at farmer's field to demonstrate the performance of improved technology i.e. milking an animal, sitting on a revolving stool in comparison of traditional method of milking (milking of an animal in squatting posture) in five locations to reduce drudgery occurred during milking an animal. For this 05 farm women were provided revolving stool. The result revealed that there was increase in efficiency as milking process took 6.5 minutes per animal as compare to 9 minute per animal. Thus, it could save 27.77% time in milking one animal and 80% farm women were able to maintain comfortable posture whereas in 60% cases they synchronized the movement of animal. It is highly acceptable among farm women.

Table :

Technology Option	***No. of trials***	***Parameters observed***	***Data***	***Remark***
T1- Local practice (sitting position).squatting posture. *(Farmers Practice)*	*2*	*1. Time* *2. Drudgery (Back ache, pain in legs and knee)* *3. Acceptability*	*=9 min. per animal* *=Drudgery prone activity* *=*	*Milking process become easier with the use of revolving stool*
T2-milking an animal sitting on Revolving stool.		*1. Time* *2. Drudgery (Back ache, pain in legs and knee)* *3. Acceptability*	*=6.5 min. per animal* *= Reduced by 100%* *=100%*	

Scientist: *Dr. Sarita Joshi, Home science*

8. Integrated Crop Management

Problem definition: *Excess use of water in conventional method (transplanting of seedling in Paddy.*

Technology Assessed (as the case may be) : *Evaluation of direct seeding of paddy.*

A soil and water conservation trial to assess the yield potential of paddy Pusa Basmati-1509 has been conducted by KVK, Baghpat, with two treatment including farmer's practice on three locations in 1.2 ha. The crop was sown on 25 to 30 June, 2017 and transplanting take place 20-25 July, 2017. The same was harvested on 25 to 27 Oct., 2017.

Table Performance of conventional method of transplanting and direct seeding of Paddy

Technology Option	No. of trials	Avg.Yield (qtl/ha)	% increase in Yield	Cost of cultivation	Gross Return(Rs /ha)	Net return (Rs/ha)	BC ratio
Puddling before transplanting of paddy (Farmers Practice)	3	54.0	9.09	35000	140400	105400	1:4.01
Direct seeding of paddy		49.5	-	22000	128700	106700	1:4.85

Rate: *Pusa Basmati-1509 @ Rs. 2600/qtl.*
Scientist: *Dr. S.P. Singh, Agronomy*

9. VARAITEL EVALUATION

Problem definition: *Low yield due to old variety wheat.*

Technology Assessed (as the case may be) : *Introduction of new late sown varieties of wheat.*

A varietal evaluation trial to assess the yield potential of new varieties HD-3059 and DBW-71 in comparison of existing variety PBW-343 has been conducted by KVK, Baghpat, with three treatment including farmer's practice on three locations in 1.2 ha. The crop was sown on 05 to 20 Nov., 2017 and the same has been harvested on 14 to 17 April., 2018 .

Table Performance various varieties of Wheat

Technology Option	No. of trials	Yield (qtl/ha)	% increase in Yield	Cost of cultivation	Gross Return(Rs /ha)	Net return (Rs/ha)	BC ratio
Use of PBW-343 (Farmers Practice)	3	36.5	-	37000	62050	25050	1.67
HD-3059		45.8	25.40	37000	77860	40860	2.10
DBW-71		43.9	20.27	37000	74630	37630	2.01


Rate:- *Wheat @ Rs. 1700 per qtl.*
Scientist: *Dr. S.P. Singh, Agronomy*

10. Integrated Crop Management

Problem definition: *Low return of sole cultivation of Sugarcane.*

Technology Assessed (as the case may be) : *Intercropping of garlic and onion with autumn sugarcane.*

KVK, Baghpat conducted a intercropping trial to assess the yield potential of intercropping of garlic (Yamuna Saifed) and onion (Agrifound dark red) with Sugarcane varieties CoS-0238 in comparison of existing sole cultivation of sugarcane with three treatment including farmer's practice on three locations in 1.2 ha. The sugarcane was planted on 15-22 October, 2017 with onion and garlic. The Garlic crop has been harvested and Onion is likely to be harvested in May. Sugarcane will be harvest in Rabi 2018-19. Final result will be conclude after sugarcane harvesting.

Table Performance of various cropping system

Technology Option	***No. of trials***	***Yield of intercrop (qtl/ha)***	***Gross Return of intercrop (Rs /ha)***	***Cost of cultivation of system***	***Gross Return of system (Rs /ha)***	***Net return of system (Rs/ha)***	***BC ratio***
Sugarcane (Farmers Practice)	***3***	-	-	-	-	-	-
Two row of Onion between two line of Sugarcane (100 cm)		*155*	*155000*	-	-	-	-
Two row of Garlic between two line of Sugarcane (100 cm)		*52.0*	*208000*	-	-	-	-
Rate:- *Garlic @ Rs.4000 per qtl. and Onion @ Rs.1000 per qtl.*							


Scientist: *Dr. S.P. Singh, Agronomy*

11. VARIETAL EVALUATION

Problem definition: *Low yield due to local variety of oat.*

Technology Assessed (as the case may be) : *Introduction of improved varieties of oat.*

A varietal evaluation trial to assess the yield potential of improved varieties Kent and UPO -212 in comparison of existing local variety has been conducted by KVK, Baghpat, with three treatment including farmer's practice on three locations in 1.2 ha. The crop was sown on 12 to 15 Dec., 2017 and the crop has been harvested as fodder from 12 Feb. to 28 Mar., 2018.

Table Performance of various variety of oat.

Technology Option	No. of trials	Yield (qtl/ha)	% increase in Yield	Cost of cultivation	Grass Return(Rs /ha)	Net return (Rs/ha)	BC ratio
T_1: local variety (Farmers Practice)	3	312	-	18500	28080	9580	1.51
T_2: Kent		380	21.79	18500	34200	15700	1.84
T_3: UPO-212		355	13.78	18500	31950	13450	1.72

Rate: *Oat @ Rs. 90 per qtl.*
Scientist: *Dr. Bhupendra Kumar, Genetics & Plant Breeding*

12. NUTRIENT MANAGEMENT

Problem definition: *Low production in late sown cultivation due to imbalance application of nutrient.*

Technology Assessed (as the case may be) : *Nutrient management in late sown wheat.*

A trial to assess the yield potential to find out appropriate nutrient management practice to enhance the productivity of late sowed wheat. A trial has been conducted by KVK, Baghpat, with three treatment including farmer's practice on three locations in 1.2 ha. The nutrient have been applied as Murate of potash @ 62 Kg/ha and micronutrient as Zinc sulphate @ 10 Kg/ha, Copper sulphaste @ 10 Kg/ha, Ferrus sulphate @ 10 Kg/ha and Borax @ 3 kg/ha. The crop was sown on 12 to 15 Dec., 2017 and the same is harvested 19 April, 2018. Treatment T3 was found better option for improved nutrient management.

Table Nutrient management in late sown wheat

Technology Option	No. of trials	Yield (qtl/ha)	% increase in Yield	Cost of cultivation	Grass Return(Rs /ha)	Net return (Rs/ha)	BC ratio
T_1: Urea @ 250 Kg/ha + DAP @ 125 Kg/ha (Farmers Practice)	3	34.0	-	39000	66300	27300	1.70

T_2: T_1+ MOP @ 250 kg/ha		42.8	25.88	39000	72760	33760	1.86
T_3: T_2+ Micronutrient		44.0	29.41	39000	74800	35800	1.91

Rate:- *Wheat @ Rs.1700 per qtl.*
Scientist: *Dr. Ravindra Kumar, Soil Science*

13. NUTRIENT MANAGEMENT

Problem definition: *Low production in sugarcane cultivation due to imbalance application of nutrient.*

Technology Assessed (as the case may be) : *Site specific nutrient management in sugarcane.*

A trial on sugarcane to assess the yield potential to site specific nutrient management practice to enhance the productivity of sugarcane. A trial has been conducted by KVK, Baghpat, with three treatment including farmer's practice on three locations in 1.2 ha. The nutrient have been applied as Murate of potash @ 62 Kg/ha and micronutrient as Zinc sulphate @ 10 Kg/ha, Copper sulphate @ 10 Kg/ha, Ferrus sulphate @ 10 Kg/ha and Borax @ 3 kg/ha. The crop was sown on 10 to 15 Feb., 2018 and the same crop is standing in the farmer's filed.

Table Nutrient management in sugarcane

Technology Option	***No. of trials***	***Yield (qtl/ha)***	***% increase in Yield***	***Cost of cultivation***	***Grass Return(Rs /ha)***	***Net return (Rs/ha)***	***BC ratio***
T_1: Urea @ 250 Kg/ha + DAP @ 125 Kg/ha (Farmers Practice)	***3***						
T_2: T_1+ MOP @ 250 kg/ha					***Result Awaited***		
T_3: T_2+ Micronutrient							

Scientist: *Dr. Ravindra Kumar, Soil Science*

II. FRONTLINE DEMONSTRATION

a. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous year and popularized during 2016-17 and recommended for large scale adoption in the district

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Blackgram	Varietal evaluation	Seed of improved variety (PU-31), application of tricho-derma in soil and chemical weed control through pre-emergence weedicides.	Demonstrations and trainings	28	75	69.0
2	Greengram	Varietal evaluation	Seed of improved variety (PM 2-3), application of tricho-derma in soil and chemical weed control through pre-emergence weedicides.	Demonstrations and trainings	09	66	32.0
3	Lentil	Varietal evaluation	Seed of improved variety (VL-08), application of tricho-derma in soil and chemical weed control through pre-emergence weedicides.	Demonstrations and trainings	14	37	21.0
4	Mango	Value addition	Preparation of mango squash by the use of 610 mg KMS /lt. mango squash as a preservative	Demonstrations, trainings, farmers fairs and press news	10	21	-
5	Sugarcane/ wheat	RCT	Solarization through deep ploughing	Demonstrations, trainings and advisory service	10	80	70
6	Wheat	RCT	Line sowing of wheat	Demonstrations, trainings and advisory service	10	50	35

**** Thematic areas as given in Table 3.1 (A1 and A2)***

b. Details of FLDs implemented during **2017-18** (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops**.)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Blackgram	Integrated Crop Management	Improved variety PU-31 (Summer-2017)	Summer 2017	10.0	11.80	0	28	28	None
2	Blackgram	Integrated Crop Management	Improved variety PU-31 (Summer-2017)	Kharif-2017	20.0	23.42	0	65	65	None
3	Blackgram	Integrated Crop Management	Improved variety PU-31 (Summer-2018)	Summer 2018	20.0	24.00	0	54	54	None
4	Greengram	Integrated Crop Management	Improved variety PM-2-3	Summer-2017	20.0	25.20	0	56	56	None

5	Greengram	Integrated Crop Management	Improved variety PM-2-3	Kharif-2017	10.0	4.43	0	13	13	Non- availability of seed in sufficient quantity
6	Greengram	Integrated Crop Management	Improved variety PM-2-3	Summer-2018	20.0	20.00	0	47	47	None
7	Lentil	Integrated Crop Management	Improved variety VL 08	Rabi 2017-18	20.0	20.0	0	83	83	None
8	Mustard	Varietal evaluation	Improved variety Pusa- Jaganath	Rabi 2017-18	20.0	20.0	0	50	50	None
9	Paddy	RCT	Moisture conservation in paddy by the use of pusa hydrogel	Kharif-2017	4.0	4.0	0	10	10	None
10	Wheat	RCT	Moisture conservation in wheat by the use of pusa hydrogel	Rabi-2017-18	4.0	4.0	0	10	10	None
11	Onion	Varietal evaluation	Demonstration of improved variety onion – Bheema raj	Rabi-2017-18	2.0	2.0	0	06	06	None
12	Sugarcane	Mechanization	Deep ploughing techniques through disc plough	2017-18	4.0	4.0	0	10	10	None
13	Wheat	Mechanization	Line sowing of wheat by seed drill	Rabi-2017-18	4.0	7.9	0	10	10	None
14	Mango (mango squash)	Value Addition	Preparation of mango squash by the use of 610 mg kms/lt mango squash + 1 kg of sugar / kg of pulp as preservative	Kharif -17	-	0	0	35	35	None
15	Seasonal fruit and vegetable	Food security	Growing of seasonal fruits and vegetable	Rabi 17-18 Kharif & Zaid -17	0.1	0.1	-	10	10	None

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil (kg/ha)			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Blackgram	Summer-2017	Irrigated	Sandy Loam	125	12.8	218	Sugarcane, Mustard, Potato	20 Feb. - 13, Mar., 2017	18 May – 06 June, 2017.	14	03
Blackgram	Kharif-2017	Irrigated	Sandy Loam	121	14.5	230	Jowar (fooder)	08- 26 Aug., 2017	02 to 17 Nov., 2017	155	17
Greengram	Summer-2017	Irrigated	Sandy Loam	124	14.5	223	Sugarcane, Mustard, Potato	24 Feb. - 13, Mar., 2017	29 May – 17 June, 2017.	14	03

Greengram	Kharif-2017	Irrigated	Sandy Loam	122	12.9	221	Jowar (fooder)	11- 26 Aug., 2017	04 to 13 Nov., 2017	155	17
Lentil	Rabi 2017-18	Irrigated	Sandy Loam	120	13.5	225	Jowar (fooder) and paddy	15- 29 Nov., 2017	Standing / harvested	-	-
Mustard	Rabi 2017-18	Irrigated	Sandy Loam	128	12.5	226	Jowar (fooder) and paddy	05 -29 Oct., 2017	27 Feb. to 23 Mar., 2018	-	-
Paddy	Kharif-2017	Irrigated	Sandy Loam	122	12.9	221	Wheat	22-28, Jul, 17	26-29 Oct., 17	411	20
Onion	Rabi-2017-18	Irrigated	Sandy Loam	124	14.5	223	Jowar (fooder)	20-28 Oct, 17	To be harvest	-	-
Wheat	Rabi-2017-18	Irrigated	Sandy Loam	124	14.5	223	Sugarcane	11-16, Nov., 2017	To be harvest	-	-
Sugarcane	2017-18	Irrigated	Sandy Loam	121	13.9	221	Ratoon, wheat	10-12, Mar., 17	20 -26 Feb., 18	450	22
Wheat	Rabi-2017-18	Irrigated	Sandy Loam	127	12.7	227	Sugarcane	25 Nov. to 10 Dec., 17	To be harvest	-	-

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Use of potassium bisulphate to prevent the spoilage of product thus enhanced the shelf life of the product.
2	Kitchen garden provided fresh, insecticide and pesticides free vegetable throughout the year. Use of hybrid seeds provided higher yield.
3	The farmers found that the additional dose of sulphur @ 30 kg /ha given to the mustard crop, result in better oil content and quality.
4	The keen interest has been taken regarding the pulse cultivation in existing cropping pattern.
5	Line sowing of wheat by seed drill was found 6% increase in yield and reduction in seed and fertilizer rate upto 20 kg/ha during sowing
6	Sowing of wheat by seed drill to conserve water upto 10%.
7	Polarization of soil by deep ploughing reduces the insect and pest infestations in the crops and enhance the productivity.
8	Intercropping is suitable for sugarcane grower to have additional income.

Farmers' reactions on specific technologies

S. No	Feed Back
1	Women appreciated the aroma, colour and taste of the products
2	By growing kitchen garden at their backyard availability of fruits and vegetable remained throughout the year.
3	The problem of wild animal namely blue bull, sheehi and wild pig persist continuously and can be avoided by intercropping of onion and garlic.
4	Mustard cultivation provided farmers to ensure to fulfill their domestic consumption and suitable to existing cropping system.

5	Farmers found that the implements are working better in paddy field rather than sugarcane field.
6	The irrigation water scarcity may be encountered with the use of bed planting system which also provided an options of intercropping with.
7	Intercropping of lentil with mustard gave better results.
8	Farmers are very much convince to grow intercrop with sugarcane

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	2	31-08-2017 22-09-2017	35 40	
2	Farmers/Women Farmer Training	12	01-04-2017 03-05-2017 16-05-2017 20-05-2017 30-05-2017 23-08-2017 31-08-2017 22-09-2017 08-10-2017 17-10-2017 20-01-2018 05-03-2018	20 21 22 21 22 22 21 21 22 21 24 22	
3	Media coverage	15	03-05-2017 20-05-2017 14-08-2017 20-08-2017 28-08-2017 31-08-2017 20-09-2017 05-12-2017 06-12-2017 24-12-2017 24-02-2018 27-02-2018 29-02-2018 07-03-2018 24-03-2018	mass	

Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Mustard																		
	Integrated Crop Management	Improved variety Pusa- Jaganath	Pusa-Jaganath	50	20.0	28.5	18.5	24.25	20.0	21.25	20500	84750	64250	4.13	20000	70000	50000	3.5



Rate:- Mustard @ Rs. 3500/Qtl

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

Frontline demonstration on pulse crops

Cluster frontline demonstration of pulses under NFSM :

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Blackgram																		
	Integrated Crop Management	Improved variety PU-31 (Summer-2017)	PU-31	28	11.80	12.2	8.5	10.0	8.1	23.4	18800	45000	26200	2.39	18800	36450	17650	1.93

	Integrated Crop Management	Improved variety PU-31 (Kharif-17)	PU-31	65	23.42	10.85	7.0	9.2	7.25	26.4	18500	41400	22900	2.23	18000	32625	14625	1.81
	Integrated Crop Management	Improved variety PU-31 (Summer-2018)	PU-31	54	24.0	12.5	8.5	10.25	8.2	25.0	19000	47025	28025	2.47	19000	36900	17900	1.94
Greengram																		
	Integrated Crop Management	Improved variety IPM 2-3 (Summer-2017)	PM-2-3	56	25.20	12.75	8.2	10.8	8.5	27.0	19000	54000	35000	2.84	19000	42500	23500	2.23
	Integrated Crop Management	Improved variety IPM 2-3 (Kharif-2017)	PM-2-3	13	4.43	10.8	7.5	9.5	8.0	18.75	18000	47500	29500	2.63	17800	40000	22200	2.24
	Integrated Crop Management	Improved variety PM-2-3 (Summer-2018)	PM-2-3	46	20.0	12.5	8.5	10.85	8.75	24.0	19000	54250	35250	2.85	19000	43750	24750	2.30



Lentil																		
	Integrated Crop Management	Improved variety VL 08 (Rabi 2017-18)	VL 08	83	20.00	11.2	7.85	9.5	7.8	21.79	18500	47500	29000	2.56	18500	39000	20500	2.10

Rate: *Greengram @ Rs. 5500 / Qtl, Blackgram @ Rs. 4500 / Qtl and Lentil @ Rs. 5000 / Qtl*

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo			Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average												
Cereals																			
Paddy																			
	Resource conservation technology	Moisture conservation in paddy by the use of pusa hydrogel	10	4.00	55.5	49.0	52.5	44.5	17.98	06 Irrigation (40% saving of irrigation water – 28 lakh litre)	10 irrigation	35500	162750	127250	3.58	34500	137950	103450	2.99
Wheat																			
	Resource conservation technology	Moisture conservation in wheat by the use of pusa hydrogel	10	4.00	59.0	54.0	57.0	50.0	14.0	03 Irrigation (40% saving of irrigation water – 12 lakh litre)	5 irrigation	34300	126600	92300	3.69	32800	111348	78548	3.39

Hydrogel in paddy

Hydrogel in wheat

Hydrogel in wheat

Vegetables																			
Onion																			
	Varietal evaluation	Demonstration of improved variety onion – Bheema raj	6	2.0	232	195	220	175	25.71	Yield= 220q/ha	Yield= 175q/ha	62000	220000	158000	3.54	62000	175000	113000	2.90



Rate:- Onion @ Rs 1000/qtl

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.
** BCR= GROSS RETURN/GROSS COST

FLD on Livestock : Nil

FLD on Fisheries : Nil

FLD on Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Value Addition																
	Preparation of mango squash by the use of 610 mg kms/lt mango squash + 1 kg of sugar / kg of pulp as preservative	35	-	-	-	-	-	-	34 / 700 ml	115/ 700* ml	81	1:3.38	-	-	-	-

*** 700 ml of kisan squash (brand) cost Rs. 115.**

FLD on Women Empowerment: Nil

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labour	Irrigation	Total
Two bottom disc plough	Sugarcane	Deep ploughing techniques through disc plough	10	4.0	• Field capacity (ha/hr) • Field efficiency (%) • Cost of operation	0.25-0.28 70 1350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Seed drill machine	Wheat	Line sowing of wheat by seed drill machine	10	7.9	• Field capacity (ha/hr) • Field efficiency (%) • Cost of operation	0.36-0.37 89 925	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

FLD on Other Enterprise: Kitchen Gardening

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units	Yield (Kg)		% change in yield	Other parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Crop (Zaid & Kharif)	Food security	Growing of seasonal vegetables and fruits	10	10	402	107	275.70	• Duration days – 335 • Saving – Rs. 12060 per annum	• Duration days – 135 • Saving – Rs. 3210 per annum	1711	12060	10349	1:7.04	900	3210	2310	1:3.5

III. Training Programme

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Resource Conservation Technologies	1	20	0	20	0	0	0	20	0	20
Integrated Farming	1	12	0	12	8	0	8	20	0	20
Integrated Crop Management	3	56	0	56	4	0	4	60	0	60
Production of organic inputs	1	16	0	16	4	0	4	20	0	20
Total	**6**	**104**	**0**	**104**	**16**	**0**	**16**	**120**	**0**	**120**
II Soil Health and Fertility Management										
Soil fertility management	1	20	0	20	0	0	0	20	0	20
Integrated water management	1	20	0	20	0	0	0	20	0	20
Total	**2**	**40**	**0**	**40**	**0**	**0**	**0**	**40**	**0**	**40**
III Livestock Production and Management										
Feed & fodder technology	1	18	0	18	2	0	2	20	0	20
Total	**1**	**18**	**0**	**18**	**2**	**0**	**2**	**20**	**0**	**20**
IV Home Science/Women empowerment										
Processing and cooking	1	0	19	19	0	1	1	0	20	20
Value addition	1	0	20	20	0	0	0	0	20	20
Women and child care	1	0	20	20	0	0	0	0	20	20
Total	**3**	**0**	**59**	**59**	**0**	**1**	**1**	**0**	**60**	**60**
V Capacity Building and Group Dynamics										
Formation and Management of SHGs	1	20	0	20	0	0	0	20	0	20
Total	**1**	**20**	**0**	**20**	**0**	**0**	**0**	**20**	**0**	**20**
GRAND TOTAL	**13**	**182**	**59**	**241**	**18**	**1**	**19**	**200**	**60**	**260**


Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	2	36	0	36	4	0	4	40	0	40
Resource Conservation Technologies	2	40	0	40	0	0	0	40	0	40
Cropping Systems	5	96	0	96	4	0	4	100	0	100
Crop Diversification	2	40	0	40	0	0	0	40	0	40
Seed production	1	20	0	20	0	0	0	20	0	20
Nursery management	2	40	0	40	0	0	0	40	0	40
Integrated Crop Management	1	20	0	20	0	0	0	20	0	20
Soil & water conservation	1	20	0	20	0	0	0	20	0	20
Total	**16**	**312**	**0**	**312**	**8**	**0**	**8**	**320**	**0**	**320**
II Soil Health and Fertility Management										
Soil fertility management	1	20	0	20	0	0	0	20	0	20
Integrated water management	2	40	0	40	0	0	0	40	0	40
Production and use of organic inputs	1	20	0	20	0	0	0	20	0	20
Micro nutrient deficiency in crops	1	20	0	20	0	0	0	20	0	20
Balance use of fertilizers	1	20	0	20	0	0	0	20	0	20
Soil and Water Testing	3	60	0	60	0	0	0	60	0	60
Total	**9**	**180**	**0**	**180**	**0**	**0**	**0**	**180**	**0**	**180**
III Home Science/Women empowerment										
Design and development of low/minimum cost diet	1	0	20	20	0	0	0	0	20	20
Designing and development for high nutrient efficiency diet	1	0	22	22	0	0	0	0	22	22
Gender mainstreaming through SHGs	1	0	20	20	0	0	0	0	20	20
Value addition	2	0	40	40	0	0	0	0	40	40
Location specific drudgery reduction technologies	1	0	20	20	0	0	0	0	20	20
Women and child care	3	0	60	60	0	0	0	0	60	60
Others (pl specify) health and hygiene	2	0	40	40	0	0	0	0	40	40
Total	**11**	**0**	**222**	**222**	**0**	**0**	**0**	**0**	**222**	**222**
IV Agril. Engineering										
Farm Machinery and its maintenance	15	280	0	280	20	0	20	300	0	300
Installation and maintenance of	2	40	0	40	0	0	0	40	0	40

micro irrigation systems										
Repair and maintenance of farm machinery and implements	2	38	0	38	2	0	2	40	0	40
Total	**19**	**358**	**0**	**358**	**22**	**0**	**22**	**380**	**0**	**380**
V Plant Protection										
Integrated Pest Management	03	55	0	55	5	0	0	60	0	60
Total	**03**	**55**	**0**	**55**	**5**	**0**	**0**	**60**	**0**	**60**
VI Production of Inputs at site										
Seed Production	9	180	0	180	0	0	0	180	0	180
Total	**9**	**180**	**0**	**180**	**0**	**0**	**0**	**180**	**0**	**180**
GRAND TOTAL	**67**	**1085**	**222**	**1307**	**35**	**0**	**30**	**1120**	**222**	**1342**

Farmers' Training including sponsored training programmes – CONSOLIDATED (On + Off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	2	36	0	36	4	0	4	40	0	40
Resource Conservation Technologies	3	60	0	60	0	0	0	60	0	60
Cropping Systems	5	96	0	96	4	0	4	100	0	100
Crop Diversification	2	40	0	40	0	0	0	40	0	40
Seed production	1	20	0	20	0	0	0	20	0	20
Nursery management	2	40	0	40	0	0	0	40	0	40
Integrated Crop Management	4	76	0	76	4	0	4	80	0	80
Soil & water conservation	1	20	0	20	0	0	0	20	0	20
Integrated Farming	1	12	0	12	8	0	8	20	0	20
Production of organic inputs	1	16	0	16	4	0	4	20	0	20
Total	**22**	**416**	**0**	**416**	**24**	**0**	**24**	**440**	**0**	**440**
II Soil Health and Fertility Management										
Soil fertility management	2	40	0	40	0	0	0	40	0	40
Integrated water management	3	60	0	60	0	0	0	60	0	60
Production and use of organic inputs	1	20	0	20	0	0	0	20	0	20
Micro nutrient deficiency in crops	1	20	0	20	0	0	0	20	0	20
Balance use of fertilizers	1	20	0	20	0	0	0	20	0	20
Soil and Water Testing	3	60	0	60	0	0	0	60	0	60
Total	**11**	**220**	**0**	**220**	**0**	**0**	**0**	**220**	**0**	**220**
III Livestock Production and Management										
Feed & fodder technology	1	18	0	18	2	0	2	20	0	20
Total	**1**	**18**	**0**	**18**	**2**	**0**	**2**	**20**	**0**	**20**
IV Home Science/Women empowerment										
Design and development of low/minimum cost diet	1	0	20	20	0	0	0	0	20	20
Designing and development for high nutrient efficiency diet	1	0	22	22	0	0	0	0	22	22
Gender mainstreaming through SHGs	1	0	20	20	0	0	0	0	20	20
Value addition	3	0	60	60	0	0	0	0	60	60
Location specific drudgery reduction technologies	1	0	20	20	0	0	0	0	20	20
Women and child care	4	0	80	80	0	0	0	0	80	80
Processing and cooking	1	0	19	19	0	1	1	0	20	20
Others (pl specify) health and hygiene	2	0	40	40	0	0	0	0	40	40
Total	**14**	**0**	**281**	**281**	**0**	**1**	**1**	**0**	**282**	**282**
IV Agril. Engineering										
Farm Machinary and its maintenance	15	280	0	280	20	0	20	300	0	300
Installation and maintenance of micro irrigation systems	2	40	0	40	0	0	0	40	0	40
Repair and maintenance of farm machinery and implements	2	38	0	38	2	0	2	40	0	40
Total	**19**	**358**	**0**	**358**	**22**	**0**	**22**	**380**	**0**	**380**
V Capacity Building and Group Dynamics										
Formation and Management of SHGs	1	20	0	20	0	0	0	20	0	20
Total	**1**	**20**	**0**	**20**	**0**	**0**	**0**	**20**	**0**	**20**
V Plant Protection										

Integrated Pest Management	03	55	0	55	5	0	0	60	0	60
Total	**03**	**55**	**0**	**55**	**5**	**0**	**0**	**60**	**0**	**60**
VI Production of Inputs at site										
Seed Production	9	180	0	180	0	0	0	180	0	180
Total	**9**	**180**	**0**	**180**	**0**	**0**	**0**	**180**	**0**	**180**
GRAND TOTAL	**80**	**1267**	**281**	**1548**	**53**	**1**	**49**	**1320**	**282**	**1602**

Training for Rural Youths including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated farming	1	10	0	10	0	0	0	10	0	10
Value addition	1	0	10	10	0	0	0	0	10	10
TOTAL	**2**	**10**	**10**	**20**	**0**	**0**	**0**	**10**	**10**	**20**

Training for Rural Youths including sponsored training programmes (Off campus): Nil

Training for Rural Youths including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated farming	1	10	0	10	0	0	0	10	0	10
Value addition	1	0	10	10	0	0	0	0	10	10
TOTAL	**2**	**10**	**10**	**20**	**0**	**0**	**0**	**10**	**10**	**20**

Training programmes for Extension Personnel including sponsored training programmes (on campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Women and Child care	1	0	14	14	0	1	1	0	15	15
TOTAL	**1**	**0**	**14**	**14**	**0**	**1**	**1**	**0**	**15**	**15**

Training programmes for Extension Personnel including sponsored training programmes (off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production and use of organic inputs	1	15	0	15	0	0	0	15	0	15
Care and maintenance of farm machinery and	1	15	0	15	0	0	0	15	0	15

implements										
Women and Child care	1	0	17	17	0	5	5	0	22	22
Information networking among farmers	1	18	0	18	0	0	0	18	0	18
Capacity building for ICT application	1	15	0	15	0	0	0	15	0	15
Any other (pl.specify)Health and hygiene	1	0	15	15	0	3	3	0	18	18
TOTAL	**6**	**63**	**32**	**95**	**0**	**8**	**8**	**63**	**40**	**103**

Training programmes for Extension Personnel including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production and use of organic inputs	1	15	0	15	0	0	0	15	0	15
Care and maintenance of farm machinery and implements	1	15	0	15	0	0	0	15	0	15
Women and Child care	2	0	31	31	0	10	10	0	37	37
Information networking among farmers	1	18	0	18	0	0	0	18	0	18
Capacity building for ICT application	1	15	0	15	0	0	0	15	0	15
Any other ()Health and hygiene	1	0	15	15	0	3	3	0	18	18
TOTAL	**7**	**63**	**46**	**109**	**0**	**13**	**13**	**63**	**55**	**118**

Table. Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops (FTT)	3	138	0	138	12	0	12	150	0	150
GRAND TOTAL	**3**	**138**	**0**	**138**	**12**	**0**	**12**	**150**	**0**	**150**

IV. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	202	243	17	260
Diagnostic visits	85	126	02	128
Field Day	02	75	05	80
Group discussions	16	427	0	427
Kisan Ghosthi	31	1726	69	1795
Film Show	0	0	0	0
Self -help groups	0	0	0	0
Kisan Mela	06	mass	mass	mass
Exhibition	02	mass	mass	mass
Scientists' visit to farmers field	156	286	0	286
Plant/animal health camps	01	218	02	220
Farm Science Club	0	0	0	0
Ex-trainees Sammelan	0	0	0	0
Farmers' seminar/workshop	0	0	0	0
Method Demonstrations	11	144	14	158
Celebration of important days	01	70	05	75
Special day celebration	0	0	0	0
Exposure visits	08	405	03	408
Others (pl. specify)	01	24	0	24
Sankalp se Siddhi Programme	01	555	45	600
Swachta Pakhwada	01	98	0	98
Parthenium Unmulan Week	01	222	05	227
Kisan Samman Diwas	01	450	55	505
Krishi Siksha Diwas	01	40	04	44

Marda Swasth Diwas	01	50	01	51
PPV&FR programme	01	100	04	104
Total	**529**	**5259**	**231**	**5490**

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	0
Extension Literature	15
News paper coverage	42
Popular articles	4
Radio Talks	0
TV Talks	5
Animal health amps (Number of animals treated)	218
Others (pl. specify)	0
Total	**284**

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
	Text only							
	Voice only							
	Voice & Text both							
	Total Messages							
	Total farmers Benefitted							

Other Extension Activities:

1. Sankalp Se Siddhi: New India Movement by Krishi Vigyan Kendra, Baghpat

Sankalp Se Siddhi: New India Movement (2017-2022) was celebrated on 30.8-2017 at Dayanand Garden/Yogshala, Village Daha. Programme started with lighting of lamp by the chief guest Hon'ble Dr. Satyapal Singh, M.P. of district Baghpat now minister in central government. Dr. Gajendra Pal, Professor & Head welcomed the chief guest by garlanding followed by farmers of the district during the programme. Dr. Chanderveer Singh Rtd. Senior Scientist, Pollution Control presented bouquet to honourable chief guest. Bouquet was then presented to Mrs. Alka Tomar wife of honourable chief guest by Dr. Sarita Joshi, Home scientist.

Hon'ble MP Dr. Satyapal Singh presented trophy to gram pradhan, Daha Shri. Susheel Rana and honoured him for his efforts in village development and encourage him to do better in the future.

During the programme the pledge for Sankalp Se Siddhi was administered by Hon'ble MP to the entire gathering. District Officer D.D.M. (NABARD), C.V.O., L.D.M., D.D. Ag., Director, National Institute of Animal Health presented their view on doubling the income of farmers. During

the programme message relating to contribution of martyrs and farmers of the country were also conveyed through poetry by local artist under leadership of Sh. Ajay Tomar to make the programme more interesting.

More than 600 farmers from various villages of the district Baghpat participated in the programme. Honourable M.P. emotionally addresses the gathering and extended thanks to all the farmer for their active participation and appreciated the effort of KVK for organizing such a marvelous programme. Programme ended with vote of thanks by Dr. Gajendra Pal.

Budget Statement:

Budget allocation (Rs.)	Budget utilization (Rs.)	No. of participant
60,000	55,808	600

Action photographs

2. Protection of Plant Varieties and Farmer's Rights Act (PPVFRA) programme:

An exhibition of prevailing plant varieties, production technologies and other farmers' oriented activities was arranged at KVK campus. An exposer visit at KVK, Baghpat of the farmer was also made during the programme. Farmers were getting aware themselves to understand the rights on the issue related to development of plant variety. Interest was shown by farmer in technical and legal issues related to protection of plant varieties & farmers right. Some voluntary agencies like NGO are also taking interest in protection of plant varieties.

1	Name of the Organization	Krishi Vigyan Kendra, Baghpat Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut
2	Amount received from PPVFRA	Rs 80000/-
3	Actual Expenditure made	Rs 47898/-
4	Balance amount, if any	Rs 32102/-
5	Date of training	February 24, 2018

6	Invitees/ Guest as resource persons	1. Dr. Shalni Gupta, Assistant Professor, Biotechnology, SVPUA&T, Meerut 2. Dr Akash Tomar ,Assistant Professor, Biotechnology, SVPUA&T, Meerut
7	Number of participants	100




3. World Honey Bee Day celebrated at KVK, Baghpat on 19 August, 2017

4. Parthenium Awareness week celebration during 16-22 August, 2017

5. Swachta Pakhwada celebrated 16-31 September, 2017



6. Kisan Samman Diwas celebrated 23 December, 2017

7. Marda Swasth Diwas celebrated on 05 December, 2017

8. Kisan Pathsala December, 2017

Jointly organized by KVK and Districti Agriculture Department.

S.No.	Village	No. of participants
1	Faizullapur	54
2	Johdi	53
3	Budsaini	71
4	Subhanpur	34
5	Abdulpur	21

9. Kisan Gosthi held at C.C.S. National Institute of Animal Health, Baghpat on 17 Dec.,2017

No. of participant = 650

V. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS: Nil

VI. PRODUCTION OF SEED/PLANTING MATERIAL AND BIO-PRODUCTS

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals	Wheat	DBW-90	-	227.85	395320.00	Supply to NSC, Meerut
Commercial crops	Sugarcane	Co-0238	-	150.0	47250.00	Supply to Baghpat Sugar factory
	Jowar	local	-	0	166000.00	Auctioned
Total				**377.85**	**608570.00**	

Production of planting materials by the KVKs: NIL

Production of Bio-Products:

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers
Bio Fertilisers				
	Vermicompost	40000	24000	At KVK farm (produced in IFS unit)
Total		**40000**	**24000**	

Production of livestock materials: Nil

VII. DETAILS OF SOIL, WATER AND PLANT ANALYSIS

Samples	No. of Samples	No. of Farmers	No. of Villages	Amount realized (Rs.)
Soil	347	347	12	26610.00
Total	**347**	**347**	**12**	**26610.00**

VIII. SCIENTIFIC ADVISORY COMMITTEE

Name of KVK	Number of SACs conducted
KVK, Baghpat	01(13-12-2017)

IX. NEWSLETTER/MAGAZINE

Name of News letter/Magazine	No. of Copies printed for distribution
KVK newsletter (Quarterly)	2000

X. PUBLICATIONS

Category	Number
Research Paper	5
Technical bulletins	1
Technical reports	36
Book	2
Abstract	3

XI. DETAILS ON RAIN WATER HARVESTING STRUCTURE AND MICRO-IRRIGATION SYSTEM: *Nil*

XII. INTERVENTIONS ON DISASTER MANAGEMENT/UNSEASONAL RAINFALL/HAILSTORM/COLD WAVES ETC: *Nil*

XIII. DETAILS ON HRD ACTIVITIES: *Nil*

XIV. CASE STUDIES (CASE STUDIES MAY BE GIVEN IN DETAIL AS PER THE FOLLOWING FORMAT)

XIV. AGRICULTURAL TECHNOLOGY INFORMATION CENTRE

A. Details on ATICs

S. No	Name of the ATIC	Name of the Host Institute	Name of the ATIC Manager
1	KVK, Baghpat	S.V.P.U.A.&T, Meerut	Dr.(Er.) Sanjay Kumar

B. Details on Farmer's visit

S. No	Purpose of visit	Number of farmer's visited
01	Technology Information	18
02	Technology Products	25

C. Facilities in the ATIC which are in operation

S. No	Particulars	Availability (Please √ mark)	Number of ATICs
01	Reception counter	X	1
02	Exhibition / technology museum	√	1
03	Touch screen Kiosk	X	1
04	Cafeteria	X	1
05	Sales counter	X	1
06	Farmer's feedback register	X	1
07	10 numbers of model of latest agriculture technology	√	1

D. Technology information provided

D.1. Details on technology information

S. No	Information category	Number of ATICs	Total number of farmers benefitted	Category of information						
				Varieties / hybrids	Pest management	Disease management	Agro-techniques	Soil and water conservation	Post Harvest technology and Value addition	Animal Husbandry and fisheries
01	Kisan Call Centre / other Phone calls from farmers	1	10	1	1	1	2	1	1	0
02	Video shows	1	25	2	1	2	1	1	1	0
03	Letters received	1	0	0	0	0	0	0	0	0
04	Letters replied	1	0	0	0	0	0	0	0	0
05	Training to farmers / technocrats / students	1	0	0	0	0	0	0	0	0

D.2 . Publications (Print & Electronic media): Nil

E. Technology Products provided : Nil

F. Technology services provided

S. No	Particulars	Number of farmers benefited
01	Soil and water testing	10
02	Plant diagnostics	5
03	Details about the services to line Departments	0

XV. TECHNOLOGICAL BACKSTOPPING BY DIRECTORATES OF EXTENSION

Financial year 2017-18

S.N.	Particular	Grant Sanction For 2017-18	Grant Received for 2017-18	Actual Expenditure 2017-18	Variation		Reason for variation
					(+) Saving	(-) Excess	
1	2	3	5		5	6	7
A.	**Recurring Items**						
1	Pay and Allowances	14636000.00	12734000.00	12716239.00	17761.00		
2	Travelling Allowances	110000.00	110000.00	80145.00	29855.00		
3	HRD	50000.00	50000.00	18000.00	32000.00		
4	Contingency						
	(a) Office Running	495000.00	495000.00	362712.00	132288.00		
	(b) POL	120000.00	120000.00	99487.00	20513.00		
	(c) Vocation Training						
	i)Training Meals	80000.00	80000.00	66075.00	13925.00		
	ii) Training Material	30000.00	30000.00	18302.00	11698.00		
	(d) F.L.D. other than (O & P)	100000.00	100000.00	92765.00	7235.00		
	(e) On Farm Trial	50000.00	50000.00	32872.00	17128.00		
	(f) Trg. Extn. Functionaries	30000.00	30000.00	1188.00	28812.00		
	(g) Library	5000.00	5000.00	2050.00	2950.00		
	(h) Farmer Fairs	0	0	0	0		
	(i) IFS	0	0	0	0		
	(j) Infor, Tech, Unit	0	0	0	0		
	Total A	**15706000.00**	**13804000.00**	**13489835.00**	**314165.00**		
B	**Non-Recurring**						
1	Works						
	i) Equipment	0	0	0	0		
	ii) Works	0	0	0	0		
	iii) Library books	0	0	0	0		
	iv) Vehicles	0	0	0	0		
	Total B	**0**	**0**	**0**	**0**		
C	**Revolving fund**	0	0	0	0		
	Total C	**0**	**0**	**0**	**0**		
D	**TSP**						
	(a) General contingency	0	0	0	0		
	(b) capital	0	0	0	0		
	Total D	**0**	**0**	**0**	**0**		
	Total (A+B+C+D)	**15706000.00**	**13804000.00**	**13489835.00**	**314165.00**		

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NICRA
Annual Progress Report

(April 2017 to March 2018)

1. Location of KVK & Selected Village Shikhera and their brief profile

District Baghpat is located in the extreme Western corner of Uttar Pradesh falling in North – Western plain zone possessing fertile soil (sandy-loam to loam soil with normal pH) and conducive climate for agriculture. District is bounded with Holi River Yamuna from western side and from historical river Hindon in eastern side. Haryana and Delhi are the bordering states of the district. There are six community developmental blocks in the district. Among those, Krishi Vigyan Kendra is situated in Khekra block across Delhi-Saharanpur highway.

The Village Shikera selected under NICRA project is situated in Pilana Block of Baghpat district which is 35 Km. away from KVK and 24 Km. away from district head quarter towards Meerut.

No. of households : 152

Total cultivated area : 140 ha.

Major soil type : Loam to Sandy loam

Mean annual rainfall : 750mm

Major crops : Sugarcane, Wheat, Paddy

Climate vulnerability : Water stress

GPS location :

Latitude- 28°55'02.10"N

Longitude- 77°22'06.80"E

Altitude- 182m

2. Climatic Vulnerability of Village Shikhera

The major issues regarding the climatic vulnerability of the village are drought, heat wave, cyclone, cold wave, frost, irregular rainfall trend etc. and frequency of such occurrences in the previous year put extra pressure on cultivation, which resulted in loss of crops and livestock. Shikera village is situated in the Pillana Block of Baghpat district, which was already declared as dark zone in reference to grand water depilation table. The availability of ground water strata for irrigation is below than 90-100 meter. Although

all the tube-wells are equipped with submersible turbine type of devices, but it faces the problems of low water efficiency during the summer seasons. The village also faces the problems of pre-maturation of cereal crops due to it cropping pattern. The available period for maturation of wheat is always in short due to the use late shown practices in the village. The effects of overall climatic charges are also visible in the village. The shrinkage of winter period cause low productivity of Rabi seasons crops. The summer temperature reaches up to 45^0 C and non availability of irrigation water resulted in very low productivity fodder crops. This causes the lower productivity of milching animals.

3. Predominant farm enterprises

a) Cropping pattern: Crops/cropping systems, area under major crops (cereals, pulses, oilseeds, commercial crops)

i. Major cropping systems: Sugarcane- Ratoon- Wheat, Rice-Wheat and Fodder-Wheat

ii. Area and productivity of major crops:

Sl.No.	Crop	Area (ha.)	Before start NICRA Yield (q/ha.)	After start NICRA Yield (q/ha.)	Par cant yield increase
1	Sugarcane	70.00	595.20	735.00	19.05
2	Paddy	29.58	48.50	50.30	3.5
3	Wheat	43.11	43.11	48.64	11.3
4	Fodder (Kharif)	28.64	426.40	460.00	7.3
5	Fodder (Rabi)	13.46	550.00	560.00	1.8
6	Mustard	13.04	13.04	17.90	27.1

b) Predominant varieties of major **food crops** (up to 4 crops) in the village (give the name of varieties of each crop, extent of area under HYV/Hybrids)

Sl No.	Crop	Name of variety/ hybrid(s)	No. of farmers using improved varieties/ hybrids	Area under improved varieties/ hybrids (ha) in the village
1	Paddy	Pusa-1121,P.B.-1	26	18.00
2	Wheat	PBW-373	31	14.76
3	Mustard	Pusa Jagannath	50	10.00

c) Cropping intensity (%): 135

d) Horticulture: crops (fruits, vegetables, flower crops etc), area and productivity of each crop

Sl No.	Crop	Area (ha)	Yield (q/ha)	Name of variety/ hybrid(s)	Area under improved varieties/ hybrids (ha) in the village
1	Okra	2.50	90.00	Parbhani Kranti	1.00

e) Area under fodder cultivation (ha) and number of farmers growing green fodder **68.60 ha. /85 farmers**

f) Major source(s) of irrigation: Open well, tube well, canal, ponds, village tanks etc.

Sl No.	Source of irrigation	Area (ha) under irrigation
1	Open well	25
2	Tube well	232
3	Canal	-
4	Ponds	1.5
5	Village tank	-
6	Any others (specify)	-

g) Micro-irrigation:

Sl No.	Micro-irrigation	Area (ha)	No. of farmers
1	Drip	nil	Nil
2	Sprinkler	nil	nil

h) Livestock:

Sl No.	Livestock types	Total number	No. of livestock owners	Share of improved breeds (%)	Major livestock diseases
1	Small ruminants	65	22	4	Rinderpest
2	Large ruminants	539	158	99	FMD, Mestitis
3	Poultry	-	-	-	and Goiter
4	Any other (specify)				-

i) Milk productivity (liters/milch animal/day)- 11.22

j) Inland fisheries: Practiced or not?, if yes, please give the following details : **N.A**

i. Where practiced: Ponds/village tanks/farm ponds/any other (specify): **N.A**

ii. Quantity of fish production/year from different sources: **N.A**

k) Any other enterprise: give details

4. Resource availability

a) Status of common pool resources (CPRs): grazing lands, water bodies, any other (give details like area/numbers, present status, whether functioning or defunct etc) As per concern with the common pool resources, there is a primitive pond is available in Shikera village. The availability of water in primitive reservoir is in only rainy season. The size of the reservoir is not enough large and cann't be used for summer irrigation purpose. This primitive reservoir may be considered as defunct.

Sl No.	CPR	Area (ha) or numbers	Current status* (before start of NICRA)
1	Grazing land (ha)	-	-
2	Water bodies (No)	01 pond	01 pond

b) NRM structures:

The pond is not restructured by any Govt. agency for increasing its water holding capacity. The water body is not even managed by local body (Gram Panchayat) as well as govt. body.

Sl No.	Name of NRM structure	No's	Storage Capacity (cu m)	No. of farmers benefited	Protective Irrigation potential* (ha)	Status (Defunct/ effectively used)
		1	2	3	4	5
1	Farm pond	1	N.A.	N.A.	N.A.	N.A.
2	Village tank	N.A.	N.A.	N.A.	N.A.	N.A.
3	Percolation tank	N.A.	N.A.	N.A.	N.A.	N.A.
4	Open well	N.A.	N.A.	N.A.	N.A.	N.A.
5	Check dam	N.A.	N.A.	N.A.	N.A.	N.A.

* Two protective irrigations at a depth of 5 cm per irrigations;
Note: For items with S.No. 7, 8, 9 and 10, fill only column numbers 1, 3 and 5

c) Status of farm mechanization before start of NICRA: No. of tractors, power tillers, seed drills, weeders, threshers, etc

S.No.	Machine	No.
1	Tractor	31
2	Power tiller	29

3	Seed drills	-
4	Weeder	3
5	Thresher	07

5. Socio-economic status

a) No. of households

Sl no.	Category	No.
1	General	06
2	OBC	132
3	SC	85
4	ST	-
	Total	**219**

b) Literacy rate (%): Male: 71.5 Female: 60.0

Average family income from agricultural and allied activities

Sl no.	Category	No. of families	Annual income (Rs/family)
1	Marginal	127	65,000-70,000
2	Small	53	1,35,000-1,75,000
3	Large	Nil	-

c) Workers engaged in agricultural activities (%): 70.25

Module wise Progress Report 2017-18

Name of KVK: Baghpat (U.P.) **Village: Sikhera**

Module-1: Natural Resource Management:

Interventions	Technology demonstrate	Critical input (Variety, Fertilizer / Chemicals doses)	No. of farmers	Area (ha)	Measurable indicators of output*	Economics of demonstration (Rs./ha)			
						Gross Cost	Gross Return	Net Return	C:B
1	2	3	4	5	6	7	8	9	10
In-situ moisture conservation RCT	Less water requiring crop	Pusa Pitambri Variety of Mustard	34	16	Yield and economic	4355	15050	10695	3.46
	Sowing of pulses crops	Black gram seed (PU-31)	5	1.5	Yield and economic	15450	65100	49650	4.21
	Raised bed planting of Okra	Multi crop planter	10	5.0	Yield & water saving	36355	296525	260170	5.6
	Management of moisture	Hyderogel	13	5.2	Yield & water saving	39300	99716	60416	2.53
	Green manuring	Dhaincha Seed	20	8.0	-	To increase soil health in Kharif 2018			
	Soil test based nutrients management	Soil health card distribution	125	--	Nutrient status	Using soil test based fertilizer during rabi season			
	Kitchen Gardening	Vegetable seed kit	25	--	To provide more nutrition throughout the year				

Intercropping	Intercropping of cow- pea with sugarcane	Cowpea seed		10	2.0	To increase organic matter and extra income
Mulching	Brown mulching in Sugarcane	32	132	Brown mulching in Sugarcane crop to moisture conservation, weed control and to increase organic matter content in soil. Reduce the one irrigation during the crop period & save 1500 m3 water / ha		



Activities under : Natural Resource Management



Activities under : NRM- Using hyderogel in wheat crop

Module-2: Crop Production:

Interventions	Technology demonstrate	Critical input (Variety, Fertilizer / Chemicals doses,)	No. of farmers	Area (ha)	Measurable indicators of output*		% Increase	Economics of demonstration (Rs./ha)				Economics of Local (Rs./ha)			
					Demo Qts./ ha.	Local Qts./ ha.		Gross Cost	Gross Return	Net Return	C:B	Gross Cost	Gross Return	Net Return	C:B
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Introducing flood / drought / temperature tolerant varieties	Late sown wheat variety	Seed (PBW - 590)	50		43.81	38.8	12.91	38800	97562	58762	1:2.51	36900	87744	50844	1:2.37
Advancement of planting dates of rabi crops in areas with terminal heat stress	RCT in mustard cultivation	Pusa Pitambri seed	34	16	16.5	14.2	16.2	69680	240800	171120	3.46	68320	214880	146560	3.15
Moisture stress management	Use of hydrogel in Late sown wheat	PBW - 590	13	5.2	44.81	38.8	15.48	39300	99716	60416	2.53	36900	87744	50844	2.37



Activities under Crop Production

Module-3: Livestock & Fisheries:

Interventions	**Technology demonstrate**	**Critical input (Variety, Fertilizer / Chemicals doses,)**	**No. of farmers**	**Unit/ No. / Area (ha)**	**Measurable indicators of output***	**% increase**	**Economics of demonstration (Rs./ha)**	**Economics of local (Rs./ha)**
Animal health checkup	Animal health Camp	Medicines	47	160 cattle				
Breed upgradation	Artificially insemination	Collaboration with Vet. Doctor	11	16 **cattle**	--	Breed upgradation through Artificially insemination tom increase milk production		
Mitigation of mineral deficiency	Feed supplements	Mineral mixture	100	100	Milk production	Milk productivity (liters/milch animal/day)- increase 10.95 to 12.50		

Activities under : Livestock & Fisheries

Module-4: Institutional Interventions:

Interventions	Details of activity			Critical input (Breed / Variety / Medicine doses,)	No. of farmers		Unit / No. / Area (ha)
	Name of crops / Commodity groups / Implements	Quantity / Number / Rent / Charges	Technology used in seed / fodder bank & function of groups		Male	Female	

Seed bank	Wheat seed production	15 farmers attached to U.P. Beej Nigam / NSC to produce quality seed	PBW- 590	Seed	--	--	--
Health Awareness programme	Women and child health Camp	Collaboration with Doctors		Medicines	63	155	218
Exposure to the knowledge regarding the new agricultural technology for early adoption	Exposer visit to Farmer fair at Meerut and New Delhi	-	-	-	150	-	150
Custom hiring centre	Implements	April 2017 to March.2018 total 10050/-			71	---	19.5
Durgery reduction	Women Health	10	10	Revolving stool		10	10
Kitchen Gardening	Vegetable seed kit	25	--	Seed		25	25

Activities under Institutional Interventions

Module-5: Capacity Building (HRD):

Sl. No.	Thematic area	Title of training	No. of Courses	Date	No. of beneficiaries		
					Male	Female	Total
1.	Fodder and Feed Management	Tech. of green fodder production in rabi season	01	21.11.17	25	-	25
2.	Health awareness	Importance of pulses in growing kids	01	26.12.17	0	25	25
3.	Seed production	Seed production technology of wheat	01	06.11.17	25	0	25

4.	Health awareness	Nutritional deficiency diseases in kids and its management	01	01.01.18	0	25	25
5.	Resource conservation technology	Use of crop residue and organic products in soil	01	31.01.18	20	0	20
6.	Resource conservation technology	Training of resource conservation and innovative approaches on Mustard	01	27.10.17	25	0	25
7.	Resource conservation technology	Management of Soil health	01	08.03.18	20	0	20
8.	Resource conservation technology	Techniques of vegetable production	01	09.03.18	20	0	20
9	Awareness	Safe use of grain storage	01	14.03.18	20	0	20
	Total		**09**		**155**	**50**	**205**

Activity Under Capacity Building Programme

Date: 26.12.17

Date: 27.10.17

Date: 01.01.18

Date: 06.11.17

Date: 31.01.18

Date : 09/03/18



Date 08/03/18 Date 14/03/18 Date 21/11/17



Module-6 : Extension activities

Thematic area	No. of activities	No. of beneficiaries		
		Males	Females	Total
Kisan Mela	02	150	-	150
Group discussion	25	109	-	109
Diagnostic .visit	24	51	-	51
Total	**51**	**310**	**-**	**310**

Status of implements:

Name of items	No. of units	Date of purchase	Amount Spent (Rs.)
Rotavator	01	30.03.11	83,000.00
Land Leveller	02	30.03.11	30,000.00
Zero Tillage seed drill/ZT-cum-ferti seed drill	02	30.03.11	80,000.00
Disc harrow / Disc plough	02	30.03.11	40,000.00
Multi crop raised bed ferti cum seed drill	02	30.03.11	1,30,000.00
Sugarcane ridge-cum fertilizer applicator	02	30.03.11	71,000.00
SRI marker	02	30.03.11	5,000.00
Cono-weeder	02	30.03.11	5,000.00
Rain Gun	02	30.03.11	46,599.00
GPS	01	30.03.11	19,855.00
Small weather equipments	7 items	30.03.11	48,000.00
Digital camera	01	30.03.11	9,990.00

Status of Contractual staff (SRF):

Sl. No.	Name of SRF	Specialization	Date of recruitment	Up to	Remark
1.	Dr.Ashish Kumar	Agronomy	08.03.2018	22.07.18	Vacant
2	Mr. Dev Kumar	Agronomy	16.08.18	Till date	

Budget Statement (2016-17)

Items	Remittance by the council during the year 2016-17	Accounts, council share of expenditure should be		Closing balance as on 31-03-17
Recurring. A	1	2		3
		Head	**Amount**	
Contingency	653000	Contingency	578584	74416

T.A	40000	T.A	16496	23504
Non Recurring. B	-	**Non Recurring. B**	-	-
Total	**693000**		**59508**	**97920**

Status of custom hiring committee:

Committee has been formulated and is in operation with the following staff positions

S.No.	**Name**	**Father's name**	**Position**
1	Sri Yashpal Singh	Sri Sriram	Chairman
2	Sri Nagendra	Sri Jagat Singh	Secretary
3	Sri Baburam	Sri Ganiram	Member
4	Sri Jagmeher	Sri Nahar Singh	Member
5	Sri Sunil	Sri Rambhajan	Member
6	Sri Praveen	Sri Sahendra	Member

Date: **Signature of PC, KVK/ In-charge**
NICRA

Date: **Signature of Nodal Officer,**
NICRA-ZPD Zone

BASE LINE SURVEY REPORT
OF
INTER-INSTITUTIONAL RESEARCH PROJECT
ON
"COMBATING DRUDGERY FOR ENHANCING FARM WOMEN'S EFFICIENCY IN DIFFERENT AGRO-CLIMATIC ZONES OF UTTAR PRADESH AND UTTRAKHAND"

Dr. Sarita Joshi
Home Scientist
KVK, BAGHPAT (U.P.)

Objectives:

1. Quantification of extent of drudgery experienced by the the women farmers in various farm related activities in the project area
2. To study the work rest cycle for farm women with respect to their age, body weight, height, and nutritional intake for different drudgery prone farm operations
3. Assessment of available drudgery reduction tools and equipment on farm women, suitability modifying and redesigning them to make ergonomically sound for enhancing work efficiency.
4. Standardizing the zone specific " Ergonomically sound technology kit" for reduction of the drudgery of farm women and devising the strategies for their upscaling

MAJOR AREA OF WORK PARTICIPATION OF WOMEN FARMER /ACTIVITY PROFILE OF RESPONDENTS

1. Crop Production related work areas:

- Harvesting of sugarcane (cutting, dethrashing and detoping)
- Interculture operation in paddy nursery
- Transplanting of paddy.
- Harvesting of paddy
- Threshing of paddy
- Wheat harvesting
- Nursery bed preparation (vegetable)
- Interculture operation in vegetable (during nursery period)
- Vegetable Sapling Transplanting
- Interculture operation in vegetable field
- Plucking of vegetable
- Grading

2. Post-Harvest Handling related work areas:

- Seed cleaning and Winnowing
- Bagging
- Grain storage

3. Dairy and Livestock Production related work areas:

- Milking of animals
- Fodder cutting/ carrying
- Fodder preparation and feeding to animals
- Cleaning of animals and shed
- Carrying of animal waste for disposal

Average time spent (in hours/person/day season wise) by the Respondents:

Sl. No.	Activity	Season	Time spend (hrs/ person/ day)	Frequency of performance	Posture used	Drudgery level Perceived
1. Crop Production related work areas:						
	Harvesting of sugarcane (cutting, dethrashing and detoping)	Rabi Zaid	6-8 hrs	Daily	Sitting + Bending	**Very Difficult**
	Interculture operation in paddy nursery	Kharif	2-4 hrs	Two times during paddy nuresry	Sitting	**Difficult**

	Transplanting of paddy	Kharif	4-6 hrs	Twice in a day	Standing + Bending	**Very Difficult**
	Harvesting of paddy	Rabi	6-8 hrs	Once in a day	Sitting	**Very Difficult**
	Threshing of paddy	Rabi	6-8 hrs	Once in a day	Sitting	**Very Difficult**
	Wheat harvesting	Zaid	4-6 hrs	Twice in a day	Sitting	**Very Difficult**
	Nursery bed preparation (vegetable)	Rabi Kharif Zaid	2-4 hrs According to season	Once in a day	Sitting + Bending	**Difficult**
	Interculture operation in vegetable (during nursery period)	Rabi Kharif Zaid	1-2 hrs	twice in a day	Sitting + Bending	**Difficult**
	Vegetable Sapling Transplanting	Rabi Kharif Zaid	2-4 hrs			
	Interculture operation in vegetable field	Rabi Kharif Zaid	4-6 hrs	twice in a crop season	Sitting	**Difficult**
	Plucking of vegetable	Rabi Kharif Zaid	2-6 hrs	2-3 times in a week period	Sitting + Bending	**Very Difficult**
	Grading	Rabi Kharif Zaid	4-6 hrs	2-3 times in a week period	Sitting + Bending	**Very Difficult**
2.	**Post-Harvest Handling related work areas:**					
	Crushing Seed cleaning and Winnowing	Rabi and Zaid	3-4 hrs	Week or 10 days	Sitting + Standing+ Bending	**Difficult**
	Bagging and grain storage	Rabi and Zaid	3-4 hrs	4-5 days in a weak	Sitting + Standing+ Bending	**Difficult**
3.	**Dairy and Livestock Production related work areas:**					
	Milking of animals	All season	0.5-1 hr	Daily	Sitting + Squatting+Bending	Neither Difficult nor Easy
	Fodder cutting/ carrying	All season	1-2 hrs	Daily	Standing +Sitting + Bending	**Difficult**

	Fodder preparation and feeding to animals	All season	1-2 hrs	Daily	Standing + Bending	Neither Difficult nor Easy
	Cleaning of animal shed	All season	1-2 hrs	Daily	Sitting + Bending	**Difficult**
	Carrying of animal waste for disposal	All season	45min	Daily	Standing + Bending	**Difficult**

OFT Result:

Technology Assessed: *Use of sugarcane dethrasher.*

Sugarcane is the main crop of district Baghpat. Women are actively involved in dethrasing of sugarcane. This task is done by traditional sickle hence, it is time and energy consuming along with causing drudgery to them. In order to enhance the efficiency and reducing drudgery, KVK, Baghpat conducted a trial by introducing sugarcane dethrasher as T1 for dethrashing of sugarcane leaves in comparison to traditional sickle as farmer practice T2 on five locations.

37.5% labour is saved in dethrashing of sugarcane by using sugarcane dethrasher as compare to traditional sickle. Drudgery is minimized as its been reduced from very exhausted to mild and very painful to pain less activity.

Table Performance of traditional sickle versus sugarcane dethrasher.

Technology Option	***No. of trials***	***Parameter observed***	***Data***	***Results***	
				Saving of time (man days)	***Saving of expenses (Rs./ha)***
T_1 -Traditional sickle (Farmers Practice)	*2*	• *Time* • *Quantity of sugarcane dethrashed* • *Exertion perceived* • *Difficulty perceived* • *Yield (q/ha)* • *Man days*	*= 8 hrs./day* *= 10 qtl. in a day* *= Very exhausted* *= Very painful* *=750* *=75*	*37*	*8400*
T_2 -Sugarcane dethrasher		• *Time* • *Quantity of sugarcane dethrashed* • *Exertion perceived* • *Difficulty perceived* • *Yield(q/ha)* • *Man days*	*= 5 hrs./day* *= 10 qtl. in a day* *= mildly exhausted* *= No pain* *=750* *=47*		

sugarcane dethresher

Farm women dethrashing sugarcane by using sugarcane dethrasher

Scientist: *Dr. Sarita Joshi, Home science and Dr. S.P. Singh, Agronomy*

Problem definition: *Poor work efficiency and more physical stress*

Technology Assessed (as the case may be) : *Use of revolving stool while milking an animal.*

Dairy farming has always been a traditional component of rural life in India. Farm women are engaged in milking the animals twice in a day for at least 10-15 minutes once. Women have been performing this activity in squatting posture causing pain in lover back, legs, knees and feet. Lower legs become heavy and stiff due to accumulation of blood in lower extremities. KVK, Baghpat conducted a assessment trial at farmer's field to demonstrate the performance of improved technology i.e. milking an animal, sitting on a revolving stool in comparison of traditional method of milking (milking of an animal in squatting posture) in five locations to reduce drudgery occurred during milking an animal. For this 05 farm women were provided revolving stool. The result revealed that there was increase in efficiency as milking process took 6.5 minutes per animal as compare to 9 minute per animal. Thus, it could save 27.77% time in milking one animal and 80% farm women were able to maintain comfortable posture whereas in 60% cases they synchronized the movement of animal. It is highly acceptable among farm women.

Table :

Technology Option	***No. of trials***	***Parameters observed***	***Data***	***Remark***
T1- Local practice (sitting position).squatting posture. *(Farmers Practice)*	*2*	4. *Time* 5. *Drudgery (Back ache, pain in legs and knee)* 6. *Acceptability*	*=9 min. per animal* *=Drudgery prone activity* *=100%*	*Milking process become easier with the use of revolving stool .she could save 27.77% time.*
T2-milking an animal sitting on Revolving stool.		4. *Time* 5. *Drudgery (Back ache, pain in legs and knee)* 6. *Acceptability*	*=6.5 min. per animal= Reduced by 100%* *=100%*	

Scientist: *Dr. Sarita Joshi, Home science*

Trainings of farmwomen on various drudgery reduction tools/ implements

Date	**Clientele**	**Title of the training programme**	**Duration in days**	**Number of participants**			**Number of SC/ST**			**G. Total**
				M	**F**	**T**	**M**	**F**	**T**	
Home Science										
05/10/18	FW	Use of revolving tool as to reduce drudgery and for enhancing efficiency \	1		15	15		5		20
22/0/18	FW	Use of sugarcane stripper for drudgery reduction of farm women in sugarcane harvesting	1		15	15		5		20

ACTION PLAN 2018-19

Abstract of interventions to be undertaken:

S. No.	Thrust area	Crop/ Enterprise	Identified Problem	Interventions				
				Title of OFT	Title of FLD	Title of Training	Title of skill development training	Inputs
1	Drudgery reduction	Cereals	Low work efficiency, injury and high drudgery in cleaning of grains	Assessment of increase in efficiency & reduction in drudgery through hanging type grain cleaner with sack holder		Use of hanging type grain cleaner for drudgery reduction of farm women in grain cleaning	Method Demonstration on working of Hanging type grain cleaner	Hanging type grain cleaner
2	Drudgery reduction	Sugarcane	Low work efficiency, injury and high drudgery in sugarcane dethrasher	Assessment of increase in efficiency & reduction in drudgery through sugarcane dethrasher		Use of sugarcane dethrasher for drudgery reduction of farm women in sugarcane harvesting	Method Demonstration on working of Sugarcane stripper	Sugarcane stripper

Details of On Farm Trial

OFT-1		
Crop/Enterprise	Cereals	
Title of On-farm trial	Assessment of increase in efficiency & reduction in drudgery through hanging type grain cleaner with sack holder	
Problem diagnose	Low work efficiency, injury and high drudgery in cleaning of grains	
Farming situation	Irrigated	
Production system and thematic area	Drudgery reduction	
Farmers practices	Use of traditional sieves and *soop*	
Details of technologies selected for assessment/refinement	T_1: Use of traditional sieve T_2: Use of hanging type grain cleaner with sack holder	
Source of Technology	CIAE, Bhopal	
No. of farmers	05	
Critical input	Hanging type grain cleaner with sack holder	
Performance indicator	Technical	Work efficiency/hour, Physiological Cost of Work
	Economic and Social	C:B ratio and Farmers reaction, feed back

OFT-2		
Crop/Enterprise	Sugarcane	
Title of On-farm trial	Assessment of increase in efficiency & reduction in drudgery through sugarcane stripper	
Problem diagnose	Low work efficiency, injury and high drudgery in sugarcane stripping	
Farming situation	Irrigated	
Production system and thematic area	Drudgery reduction	
Farmers practices	Use of traditional sickle for stripping of sugarcane	
Details of technologies selected for assessment/refinement	T_1: Use of traditional sickle for stripping of sugarcane T_2: Use of sugarcane stripper	
Source of Technology	CIAE, Bhopal	
No. of farmers	05	
Critical input	Sugarcane stripper	
Performance indicator	Technical	Work efficiency/hour, Physiological Cost of Work
	Economic	C:B ratio
	Social	Farmers reaction, feed back

Details of Front Line Demonstrations on for Drudgery Reduction:

Sl. No.	Name of the implement	Crop	Season and year	No. of farmers	Critical inputs	Performance parameters / Indicators
1.	revolving stool	Livestock	Rabi 17-18	10 women	10 no.	Work efficiency Feedback of farm women & drudgery reduction .

Trainings of farmwomen on various drudgery reduction tools/ implements

Date	Clientele	Title of the training programme	Duration in days	Number of participants			Number of SC/ST			G. Total
				M	F	T	M	F	T	
Home Science										
13/11/18	FW	Use of hanging type grain cleaner for drudgery reduction of farm women in grain cleaning	1	15	0	15	5	0	5	20
10/02/10	FW	Use of sugarcane stripper for drudgery reduction of farm women in sugarcane harvesting	1	14	0	14	6	0	6	20

Skill Building of farm women on working of various drudgery reduction tools/ implements

Date	Clientele	Title of the training programme	Duration in days	Number of participants			Number of SC/ST			G. Total
				M	F	T	M	F	T	
Home Science										
12/12/18	FW	Method Demonstration on Handling of Hanging type grain cleaner	1	15	0	15	5	0	5	20
15/01/19	FW	Method Demonstration on Handling of Sugarcane stripper	1	14	0	14	6	0	6	20