

**April 2017 to March 2018** 

# **Contents**

Sl.	Particular	Page No
No.		
1101	Instructions for Filling the Format	3
	Summary of KVK Annual Report (Quantifiable Achievement) for the year 2017-18	4-5
1	General Information	6-10
2	On Farm Testing	11-14
3	Achievements of Frontline Demonstrations	15-20
4	Documentation of the need assessment conducted by the KVK for the training programme	21
5	Training programmes	23-26
6	Extension Activities	27
7	Literature Developed/Published (with full title, author & reference)	28
8	Production and supply of Technological products	29
9	Activities of Soil and Water Testing Laboratory	30
10	Rainwater Harvesting	31
11	Utilization of Farmer Hostel facilities	31
12	Utilization of Staff Quarter facilities	31
13	Details of SAC Meeting	31
14	Status of Kisan Mobile Advisory	31
15	Status of Convergence with agricultural schemes	32
16.	Status of Revolving Funds	32
17.	Awards & Recognition	32
18.	Details of KVK Agro-technological Park	32
19.	Farm Innovators	33
20.	KVK interaction with progressive farmers	33
21.	Outreach of KVK	33
22.	Technology Demonstration under Tribal Sub Plan on Pulses/ Programme on Harnessing Pulses/ Quality Protein Maize	33
23.	KVK Ring	34
24.	Important visitors to KVK	34
25.	Status of KVK Website	35
26.	Status of E-connectivity	35
27.	Status of RTI	35
28.	Status of Citizen Charter	35
29.	Attended HRD activities organized by ZPD	35
30.	Attended HRD activities organized by DES	36
31.	Attended HRD activities by KVK Staff	36
32	Agri Alert report	36
33.	Details of Technological Week Celebration	37
34.	Interventions on Drought Mitigation	38
35.	Proposal of NICRA	40
36.	Proposed works under NAIP	41
37.	Case study / Success Story to be developed	41
38.	Action Photographs	42-45

## **Instructions for Filling the Format**

- 1. Do not change/modify/ delete any column of any of the table. However, additional rows can be created, if required.
- 2. Do not merge columns, rows.
- 3. Please repeat the name of KVK in each table in the column "Name of KVK"
- 4. Do not fill the non-numerical values in numeric field
- 5. Do not repeat the unit while reporting data as it is already mentioned in the heading row
- 6. Strictly fill the data in desired unit only. If it is reported in other unit, convert it in the desired unit
- 7. Please mention only standard English names of crops (Do not mention Urd, Arhar, Til, Kulthi, Moong, Bajra, etc.)
- 8. Additional relevant information may be provided at the end of Format by creating heading "Additional Information"
- 9. Also read the instructions mentioned just below the table
- 10. Your suggestions for improvement in the format for your simplicity as well as data compilation may be given at the end of the format
- 11.Do not press any Enter Key in any of the columns while making entry in the columns of the table. Use only arrow key /Tab key/ mouse pointer while movement from one column/row to another.
- 12. Grey color cells in summary table need not to be filled.
- 13. Crop name should be spelled correct and standard English name should be used i.e Cereals, Pulses, Oilseed:- Rice (not use Paddy), Wheat, Barley, Kodo, Kutki, Maize, Jwar, Bajra, Pigeon pea (not use Tur, Arhar, Red gram), Blackgram (not use Urd), Greengram (not use Moong/Moongbean), Chickpea (not use Gram, Chana), Field pea, Horse gram (Kulthi), Lentil, Mustard (not use Rai, Sarsoan), Soybean, Linseed, Groundnut, Sesame (not use Til), Niger (not use Ram Til), Safflower (not use Kusum).

Vegetable:- Vegetable pea, Bottle guard, Bitter guard, Okra (not use Bhindi or Ladies finger).

Fruits:- Mango, Guava, Custard apple, Pear etc.

Spices:- Black Peeper, Turmeric, Ginger, Cardamom etc.

Summary of KVK Annual Report (Quantifiable Achievement) for the year 2017-18

S.N.	Quantifiable Achievement	Number	Beneficiari	oc (noc )
1	On Farm Testing	Number	Denenciari	es (nos.)
1	Proposed OFT	05		
	On Going OFT	03		
	Technologies assessed (Completed OFT)			
	Technologies assessed (Completed OF 1)  Technologies refined			
	On farm trials conducted	00		
<u> </u>		08		
2	Frontline demonstrations	00		
	Proposed Frontline demonstrations	08		
	On Going Frontline demonstrations			
	FLDs conducted on crops			
	Area under crops (ha.)			
	FLD on farm implement and tools			
	FLD on livestock/ AH enterprises (Dairy/ Sheep and Goat/Poultry/ Duckery/ Piggery etc.)			
	FLD on Fisheries - Finger lings			
	FLD on other enterprises (Bee keeping, lac, mushroom, sericulture, value addition, vermi compost,			
	etc.)			
	FLD on Women in Agriculture - (Nutritional garden, Income generation, Value addition, Drudgery			
	reduction, etc.)			
3	Training programmes	No. of Course	<b>Duration (days)</b>	Participants
	Farmers	40	01	1200
	Farm women	03	01	60
	Rural youth	-	-	-
	Extension personnel/ In service	11	1	300
	Vocational trainings	03	06	71
	Sponsored Training	10	01	423
	Total	10	01	723
	Total	No. of programmes	Particip	ante
4	Extension Programmes	140. of programmes	1 at ticip	ants
5	Production of technology inputs etc	04	Beneficiari	()
_ 5	Seed (qt.)	Qty	Beneficiari	es (nos.)
	Planting material produced (nos.)	0.1	D 61 1	( )
6	Livestock	Qty	Beneficiari	es (nos.)
	Livestock strains (Nos)			
	Milk Yield - Cow, Buffelo etc. (in liter)			
	Fish (Kg.)			
	Fingerlings (nos.)			
	Poultry-Eggs (nos.)			
	Ducks (nos.)			
	Chicks etc. (nos.)			
7	Bio Products	Qty	Beneficiari	es (nos.)
	Bio Agents -Earth worm (Kg.)		<u> </u>	
	Trichoderma (kg.)			

Bio Pesticide-Panchgavya, Neem Extract , Neem oil etc.(lit.)  8 Any other significant achievement in the Zone  Award (Best KVK award and scientist and farmer's award)  Publications (Res. Paper/ pop. Art./Bulletin,etc.)  KVK News letter  KVK News letter  SAC Meetings conducted  SAC Meetings conducted  Soil sample tested  Water sample tested  RWH System (Special training and field visit on RWH structure and MIS in KVKs)  -	2000 60 187
8 Any other significant achievement in the Zone Award (Best KVK award and scientist and farmer's award) Publications (Res. Paper/pop. Art./Bulletin,etc.) KVK News letter VAR SAC Meetings conducted Soil sample tested Water sample tested  Water sample tested  Participal  Award (Best KVK award and scientist and farmer's award)  -  Butter Sac Meetings conducted Sac Meetings conducted Soil sample tested -	- 2000 60 187 -
Award (Best KVK award and scientist and farmer's award) Publications (Res. Paper/ pop. Art./Bulletin,etc.)  KVK News letter 04 SAC Meetings conducted 01 Soil sample tested 187 Water sample tested -	- 2000 60 187 -
Publications ( Res. Paper/ pop. Art./Bulletin,etc.)  KVK News letter 04  SAC Meetings conducted 01  Soil sample tested 187  Water sample tested -	60 187 -
KVK News letter 04 SAC Meetings conducted 01 Soil sample tested 187 Water sample tested -	60 187 -
SAC Meetings conducted 01 Soil sample tested 187 Water sample tested -	60 187 -
Soil sample tested 187 Water sample tested -	187
Water sample tested -	-
RWH System (Special training and field visit on RWH structure and MIS in KVKs)	_
RVII System (Special duming the field visit on RVIII structure that visit in RVRS)	
KVK-KMA (Message and beneficiaries) 28	145700
Convergence programmes	
Sponsored programmes 09	423
KVK Progressive Farmers interaction	
No. of Technology Week Celebrations	
Attended HRD activities organized by ZPD 12	03
Attended HRD activities organized by DES 20	05
Attended HRD activities by KVK Staff(Refresher /Short course, Training programme etc. )	-
9 Current status of Revolving Funds (Amt. in Rs.)	
10 No. of blocks No.	of villages
Outreach of KVK in the District 06	959
11 ICAR SAU	Others
No. of important visitors to KVK (nos.) 02 23	461
12 Working (Yes/No) No.	of Update
Status of KVK Website Yes	06
	ation disposed
Status of RTI (nos.)	NIL
	ry dissolved
Citizen Charter (nos.)	NIL
	ogramme viewed
E-connectivity NO	
16 Filled	Vacant
Staff Position 11	05
17 Workshop/ Seminar/ Conference attended by staff of KVK (nos) 05	
18 Publication received from ICAR /other organization (nos.) 08	
19 Particulars Organization	
Agri alerts (epidemic, high serious nature problem, Cyclone etc. reported first time to ZPD, SAU, Agri. Deptt. and ICAR)	

# **GENERAL INFORMATION**

# 1.1. Staff Position (as on date)

Summary of Staff position in KVKs on March, 2018

Name of KVK	Sanctioned	PC (1)		SMS (6)		PA (3)		Adm	n. (6)	Total		
	Posts		Filled	Sanc.	Filled	Sanc.	Filled	Sanc.	Filled	Sanc.	Filled	
Bhatapara	16	1	0	6	5	3	2	6	4	16	11	

Name of KVK	Sanction post	Name of the incumbent	Discipline	Higist degree	Subject of specilization	Pay scale	Present pay	Date of joiing	Per./Temp.	Category
Bhatapara	Programme Coordinator	Dr. A.S. Rajput	Agronomy	M.Sc.(Agronomy)	Horticulture			01.05.2018 at KVK Bhatapara		Gen.
Bhatapara	Subject Matter Specialist1	Smt. Savita Rajput	Horticulture	PhD.(Hort.)	Horticulture	15600- 39100 AGP- 5400/-	21000	10.09.2012	Temporary	Gen.
Bhatapara	Subject Matter Specialist2	Er. P.D.Verma	Agril. Engg.	M. Tech. (FMP)	Farm Machinery & Power	15600- 39100 AGP- 5400/-	21000	6.9.2012	Temporary	OBC
Bhatapara	Subject Matter Specialist3	Shri Pradeep Kashyap	Soil Science	M.Sc. (Soil Science)	Soil Science	15600- 39100 AGP- 5400/-	21000	7.9.2012	Temporary	OBC
Bhatapara	Subject Matter Specialist4	Deepmala Kindo	Plant pathology	M.Sc. (Plant pathology)	Plant Pathology	15600- 39100 AGP- 5400/-	21000	7.9.2012	Temporary	ST
Bhatapara	Subject Matter Specialist5	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant
Bhatapara	Subject Matter Specialist6	Vacant	Livestock	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant
Bhatapara	Programme Assistant	Shri Priyank Banafar	Soil Science	M.Sc. (Soil Science	Soil Science & Agricultural Chemistry	18900/-	-	12.02.2018	Contractual	Gen
Bhatapara	Farm Manager	Dr. Sakshi Bajaj	Agronomy	Ph.D. (Agronomy)	Agronomy	18900/-	-	21.02.2018	Contractual	Gen

Name of KVK	Sanction post	Name of the incumbent	Discipline	Higist degree	Subject of specilization	Pay scale	Present pay	Date of joiing	Per./Temp.	Category
Bhatapara	Computer Programmer	Smt. Deepkala Thakur	Comp. Sc.	B.E. (Comp. Sc.)	Comp. Sc.	9300- 34800 AGP- 4200/-	13500	21.9.2012	Temporary	ST
Bhatapara	Accountant / superintendent	Shri M.L Yadav	-			5200- 20200 AGP- 2800/-	15610		Temporary	OBC
Bhatapara	Stenographer	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant
Bhatapara	Driver	Shri Tikam Dhruw	-	8th	8 <sup>th</sup>	5200- 20200 AGP- 1900/-	8810	17.4.2008	Temporary	ST
Bhatapara	Driver	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant
Bhatapara	Supporting staff	Shri Naindas Banjare	-	5th	5 <sup>th</sup>	4750- 7440 AGP- 1300/-	7480	8.2.2006	Temporary	SC
Bhatapara	Supporting staff	Shri Ashok Satnami	-	5th	5 <sup>th</sup>	4750- 7440 AGP- 1300/-	7480	8.2.2006	Temporary	SC

Note- Dr. Angad Singh Rajput is I/c Senior Scientist & Head of KVK, Bhatapara since 01.05.2017 Dr. Sakshi Bajaj, Farm Manager is contractual Shri Priyank Singh Banafar, Programme Assistant is contractual

1.2. DISTRICT PROFILE (detail of geographical area, cultivation, Land, resources, opportunities, irrigation, populations etc.)-

KVK Name	Agro- climatic zone	No . of Blocks	No. of Panchayats	Population	Literacy	SC and ST Population	No. of farmers	Average land holding
Bhatapara	Chhattisgarh Plain	6	499	496890	69%	184346	197760	1.20 ha

1.3. DETAILS OF ADOPTED VILLAGE during the reporting period (Approved by competent Authority in meetings/workshops)

KVK Name	Village Name	Year of adoption	Block Name	Distance from KVK	Population	Number of farmers (having land in the village)
Bhatapara	Gudhelia	2016	Bhatapara	15 Km.		
Bhatapara	Seetapar	2016	Simga	30 Km		
Bhatapara	Pendri	2016	Bhatapara	10 Km		
Bhatapara	Kukrachunda	2016	Bhatapara	15 Km		
Bhatapara	Maldi	2016	Bhatapara	7 Km		
Bhatapara	Gurra	2016	Bhatapara	8 Km		
Bhatapara	Khairi	2016	Bhatapara	3 Km		
Bhatapara	Marrakona	2016	Simga	10Km		
Bhatapara	Rajadhar	2016	Bhatapara	4 km		
Bhatapara	Sarwani	2016	Kasdol	75 Km		
Bhatapara	Muswadih	2016	Palari			

1.4. THRUST AREAS identified by KVK (Approved by competent Authority in meetings/workshop)

KVK Name	THRUST AREA
Bhatapara	Achieve yield potential of crop varieties
Bhatapara	Reduction in the cost of cultivation to get higher B:C ratio
Bhatapara	Promotion of bold seeded pulse production, particularly Pigeon pea.
Bhatapara	Promotion of green fodder for improvement in milk production for small and marginal dairy holders.
Bhatapara	Promotion of group marketing of vegetables for small and marginal farmers.
Bhatapara	Integrated nutrient management and correction of micronutrient deficiencies
Bhatapara	Promotion of integrated pest management in vegetables.
Bhatapara	Promotion low cost storage techniques of cereals, pulse, and vegetables for small and marginal farmers.
Bhatapara	Promotion of judicious use of water, pesticide and fertilizer.
Bhatapara	Rainfed Mechanization.
Bhatapara	Drudgery reduction and manual power harnessing through farm machinery and equipments.
Bhatapara	Promotion of technologies to improve availabilities of fixed nutrient in the soil through bio fertilizer.
Bhatapara	Promotion of soil test based fertilizer recommendation for major crop in the district.

## 1.4. PROBLEM IDENTIFIED by KVK (Approved by competent Authority in meetings/workshop)

KVK Name	Problem identified	Methods of problem identification	Location Name of Village & Block
Balodabazar-Bhatapara	Rice var. Mahamaya is popular but became old var. And susceptible for Blast.	Group discussion and Survey	Most of the villages of the District Baloda Bazar- Bhatapara
Balodabazar-Bhatapara	Low productivity of Rice due to improper method of sowing.	Village visit and base line survey with the extension officers of Agril. Deptt.	Most of the villages of the District Baloda Bazar- Bhatapara
Balodabazar-Bhatapara	Low productivity of Soybean due to improper method of sowing.	Village visit and base line survey with the extension officers of Agril. Deptt.	Sum of the villages of the District Baloda Bazar- Bhatapara
Balodabazar-Bhatapara	Improper utilization of soil moisture in rabi crops( Wheat, Chickpea)	Village visit and base line survey with the extension officers of Agril. Deptt.	Most of the villages of the District Baloda Bazar- Bhatapara
Balodabazar-Bhatapara	Poor economic yield in Utera lathyrus in vertisol	Group discussion, Monthly Workshop and Survey	Most of the villages of Kasdol and Bilaigarh Block
Balodabazar-Bhatapara	Loss of marketable yield due to Yellow Vein Mosaic disease in Okra	Group discussion, Monthly Workshop and Survey	Most of the villages of the District Baloda Bazar- Bhatapara
Balodabazar-Bhatapara	Low yield and high infestation of Aphid due to late sown of Mustard Variety (December).	Group discussion, Monthly Workshop and Survey	Most of the villages of the District Baloda Bazar- Bhatapara
Balodabazar-Bhatapara	Low yield due to heavy infestation of Pod Borer in Chickpea	Group discussion, Monthly Workshop and Survey	Most of the villages of the District Baloda Bazar- Bhatapara
Balodabazar-Bhatapara	Low yield due to leaf curl and wilt disease in Chilli and Tomato	Group discussion, Monthly	Most of the

		Workshop and Survey	villages of the
		_	District Baloda
			Bazar- Bhatapara
Balodabazar-Bhatapara	Injudicious use of insecticide to control fruit and shoot borer in	Group discussion, Monthly	Most of the
_	Brinjal.	Workshop and Survey	villages of the
			District Baloda
			Bazar- Bhatapara
Balodabazar-Bhatapara	Low yield due to heavy infestation of weeds in Okra	Group discussion, Monthly	Most of the
_		Workshop and Survey	villages of the
			District Baloda
			Bazar- Bhatapara
Balodabazar-Bhatapara	Low yield due to use of local Varieties of Black gram and Lathyrus.	Group discussion and Survey	Most of the
			villages of the
			District Baloda
			Bazar- Bhatapara
Balodabazar-Bhatapara	Post Harvest losses in vegetables due to unavailability of storage	Group discussion and Survey	Most of the
•	facilities.		villages of the
			District Baloda
			Bazar- Bhatapara

## 2. On Farm Testing (OFT)

#### Note-

- Thematic area should be spelled correct and follow standard pattern i.e. Integrated Nutrient Management in place of INM or Inte. Nutrient Mngt. Etc.
- Crop name should be spelled correct and standard English name should be used i.e Chick pea in place of gram/chana, Paddy in place of Rice/chawal, brinjal in place of egg plant/bhata/baigan etc.
- Don't press enter key to navigate among column use arrow or tab key
- don't add space before or after statement within the table cell
- Kindly mention realistic estimated yield of your crop under trail.
- If crop has been not yet harvested, mark it \* on that

#### 2.1 Information about OFT

KVK name	Yea r	Season	Problem diagnose	Title of OFT	Category of technology	Themati c Area	Crop/ enterpri	Farmin	No. of trials	Res	ults (q	/ha)	Net 1	Returr	ns (Rs./ha)	Recommend ations
name	1		ulagnose	OFT	(Assessment/ Refinement)	CAICA	se	Situatio ns	triais	FP (T <sub>1</sub>	RP (T <sub>2</sub>	Т3	FP (T <sub>1</sub>	RP (T <sub>2</sub>	Т3	ations
Bhata para	2017 -18	Kharif	Sheath blight & stem borer is one of the major problem in the district causing serious yield losses	Assessment of Chemicals against Sheath Blight & insect pests of Rice	Assessment	Disease Manageme nt/PLP	Rice	Lowland/ Rainfed	05	30. 10	38.	-	256 60	324 85	-	Use of recommended fungicide and insecticide for the control of disease and pest.
Bhata para	2017 -18	Kharif	Low yield of Brinjal due to fusarium wilt	Assessment of Trichoderm a in fusarium wilt of Brinjal	Assessment	Disease Manageme nt/PLP		Midland/I rrigated	05	233 .80	280 .20	-	690 72	936 50	-	Use of Trichoderma as seed and Soil treatment to reduce the wilt incidence and increases yield in Brinjal.
Bhata para	2017 -18	Kharif	Water logging, less production	Assessment of Broad bed planter for broad	Assessment	Farm Mechaniza tion	Soybean	Upland/ra infed	05	9.5 6	16. 85	-	150 68	435 63	-	

Bhata para	2017 -18	Rabi	Delay in sowing due to not availabilit y of optimum	seed cum fertilizer drill for line sowing of mustard.	Assessment	Farm Mechaniza tion	Mustard	Lowland/ Rainfed	05	9.7 5	11. 90	-	217 07	330 41	-	
Bhata para	2017 -18	Kharif	Yield losses in rainy season (kharif) due to weed infestation in Okra	Assessment of weed managemen t in Okra	Assessment	Weed Manageme nt	Okra	Midland/I rrigated	05	96	116	-	630 00	855 00	-	Use of Oxyflourfen at 0.15 kg a.i./ha as pre emergence application within three days after sowing+one hand weeding on 30 days after sowing.
Bhata para	2017 -18	Kharif	35 to 40 % yield loss due to disease incidence in tomato	Assessment of Hybrid cv. Arka Rakshak of Tomato	Assessment	Varietal evaluation	Tomato	Midland/I rrigated	05	699	802	-	255 500	323 720	-	Use of Hybrid cv. Arka Rakshak of Tomato high yielding and registrant to bacterial wilt, Leaf curl and Early blight.

## 2.2 Economic Performance

KVK name	OFT Title	1	neters		Average	e Cost of o (Rs/ha)	cultivation		age Gross (Rs/ha)			rage Net I (Rs/ha)		(6		ost Ratio Return / Cost)
		Name and unit of Paramete r	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )	Refined Practice , if any (T <sub>3</sub> )	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )	Refined Practice , if any (T <sub>3</sub> )	FP (T <sub>1</sub> )	RP(T <sub>2</sub>	Refined Practice , if any (T <sub>3</sub> )	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )	Refined Practice , if any (T <sub>3</sub> )
Bhatapar a	Assessment of Broad bed planter for broad bed method of soybean cultivation	No. of pods/plant	18	32	23650	24680	-	38718	68243	-	15068	43563	-	1.6	2.7	-
Bhatapar a	Assessment of Zero till seed cum fertilizer	No. of siliquae per plant	204	247	21300	19450	-	43007	52941	-	21707	33041	-	2.0	2.7	-
Bhatapar a	Assessment of weed managemen t in Okra	No. of weeds/m <sup>2</sup>	20.6	7.8	52000	62000	-	11520 0	14750 0	-	63200	85500	-	2.2	2.3	-
Bhatapar a	Assessment of Hybrid cv. Arka Rakshak of Tomato	No. of fruits/plant	25.2	77.5	17100 0	18000	-	33202 5	40310	-	16102 5	22310	-	1.9	2.2	-
Bhatapar a	Assessment of Chemicals against Sheath Blight & insect pests of Rice	Disease Severity	15.6	9.23	31374	30374	-	54419	61240	-	25600	32485	-	0.8	1.2	-
Bhatapar a	Assessment of Trichoderm a in fusarium	%Disease incidence	43.1	16.4	60100	52168	-	11480 0	13240	-	69072	93650	-	1.3	1.7	-

wilt of Brinjal								
Бипја								

## 2.3 Information about Home Science OFT: (For All Thematic Area)

KVK Name	Year	Season	Problem diagnose	Title of OFT	Category of technology (Assessment/ Refinement)	Thematic Area	Details of Technology Selected for Assessment	Characteristics of Technology / Variety / Product / Enterprise	Farming / Enterprise Situation	No. of trials	Recommendations

2.4 (A) Economic Performance Home Science OFT: (For Drudgery Reduction)

KVK	OFT Title								Per	formance	Indicato	or / Parame	ter		
name		Outp	ut m2/h	Expe	Energy nditure min.		HR /min	% reduct drudg	-	% incr effici			Cost of ork	_	of cardiac ost
		T1	T2	T1	T2	T1	T2	T1	T2	T1	<b>T2</b>	T1	T2	T1	T2

## 2.4 (B) Economic Performance Home Science OFT: (For Income Genration)

KVK	OFT Title					Per	rformance In	dicator / Para	meter				
name			ction per mit	Cost	of input	Incremen	tal income	Yield(Kg	g/ha)	Net R	eturn	Saving in Rs	BC ratio
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2		

#### 2.4 (C) Economic Performance Home Science OFT: (For value addition)

KVK	OFT Title						Performance	Indicator	/ Paramet	er					
name		Comp	osition	Inpu	t used	outco	ome (Kg)	Cost o	f input	Increme	ental	Net R	eturn	Saving in	BC
		of pr	oduct							incon	ne			Rs	ratio
		<b>T1</b>	F			T1	T2	T1	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>		

#### 2.4(D) Economic Performance Home Science OFT: (For Nutritional security)

_											<b>0</b> /									
	KVK	OFT	Perfo	rmance Indica	tor / Pa	rameter			Nuti	rient l	Intake (I	J <b>nit</b> )			Anthr	opom	etric meas	ureme	ents	
	name	Title		me of Fruit/Product		er capita imption gm/ dav	Ener (kc		Pro (g	tein m)	Iron (	mg)	Calci (m		Increase in Wei (Kg)	ght	Increas Height (	-	Increas BMI (	-
			T1	T2	T1	T2	T1	<b>T2</b>	T1	<b>T2</b>	T1	<b>T2</b>	T1	<b>T2</b>	T1	<b>T2</b>	T1	<b>T2</b>	T1	<b>T2</b>

## 2.5 Feedback from KVK to Research System

Name of KVK	Feedback

# 3. Achievements of Frontline Demonstrations (FLD)

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

List of technologies demonstrated and popularized during previous years and recommended for large scale adoption in the district

1/3/1/	Crop/			Details of popularization	Horizonta	spread of techn	ology
KVK Name	Enterprise	Thematic Area	Technology demonstrated	methods suggested to the Extension system	No. of villages	No. of farmers	Area in ha
Bhatapara	Rice	Farm Mechanization	Demonstration of Tractor Drawn Seed cum fertilizer drill for line sowing of paddy	Farmers training, Field Day	5	12	5
	Rice	Farm Mechanization	FLD on tractor driven axial flow multi-crop thresher for paddy threshing	Farmers training, Field Day	5	12	5
	Rice	Disease Management	FLD on management of blast disease of Paddy var. Mahamaya	Farmers training, Field Day	5	12	5
	Wheat	Farm Mechanization	FLD on Zero till seed cum fertilizer drill for line sowing of wheat	Farmers training, Field Day	5	12	5
	Chickpea	Farm Mechanization	FLD on Seed cum fertilizer drill for line sowing of Chickpea	Farmers training, Field Day	5	12	5
	Chickpea	IPM	Demonstration on Integrated Pest Management in Gram Pod Borer	Farmers training, Field Day	5	12	5
	Cauliflower	Nutrient Mnagement	Demonstration on foliar application of water soluble fertilizer on growth and yield of Cauliflower	Farmers training, Field Day	5	12	5

#### Note-

• Thematic area should be spelled correct and follow standard pattern i.e. Integrated Nutrient Management in place of INM or Inte. Nutrient Mngt. Etc.

- \*Crop name should be spelled correct and standard English name should be i.e Chick pea in place of gram, Paddy in place of Rice, brinjal in place of egg plant etc.
- \*Don't press enter key to navigate among col use arrow or tab key
- \*don't add space before or after statement within the table cell
- Kindly mention realistic estimated yield of your crop under Demonstration.
- If crop has been not yet harvested, mark it \* on that

3.2 Details of FLDs implemented

						Name of		Crop- Area	Result	s (q/ha)			N	No. of fa	rmers	
	KVK Name	year	Season	Thematic area	Technology demonstrated	Crop/ Enterprise	Name of Variety/Technology/Entreprizes	(ha) / Entrep - No.	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )	% change	SC	ST	Others	General	Total
Ī	3hatapara	2017- 18	Kharif	Farm mechanization	SEED CUM FERTILIZER DRILL FOR LINE SOWING OF Rice	Rice	SEED CUM FERTILIZER DRILL	5	39.72	41.64	4.83	0	0	0	12	12
		2017- 18	Kharif	Farm mechanization	TRACTOR DRIVEN AXIAL FLOW MULTI- CROP THRESHER FOR RICE THRESHING	Rice	AXIAL FLOW MULTI- CROP THRESHER	5	1.35	9.97	638.52	0	0	0	12	12
		2017- 18	Rabi	Farm mechanization	ZERO TILL SEED CUM FERTILIZER DRILL FOR LINE SOWING OF WHEAT	Wheat	ZERO TILL SEED CUM FERTILIZER DRILL	5	25.63	20.15	9.83	0	0	0	13	13

2017- 18	Rabi	Farm mechanization	SEED CUM FERTILIZER DRILL FOR LINE SOWING OF CHICKPEA	Chickpea	SEED CUM FERTILIZER DRILL	5	10.58	15.55	46.98	0	0	0	13	13
2017-18	Rabi	IDM	use of Trichoderma as seed treatment and Soil treatment to control wilt of chickpea	Chickpea	Trichoderma	5	6.10	10.40	70.49	3	2	5	2	12
2017- 18	Rabi	Mushroon Production Technique	performance of Oyster mushroom variety Indira Sweta	Mushroom	Indira Sweta	5	2.45	3.15	28.57	0	0	12	0	12
2017- 18	Kharif	PGR	use of Plant Growth Regulator (PGR) to increase female flower and yield in Bitter Gourd	Bittergourd	PGR	5	185.2	220.1	18.9	0	0	0	10	10
2017- 18	Rabi	Nutrient Management	Demonstration on foliar application of water soluble fertilizer on growth and yield of Cauliflower.	Cauliflower	WSF (19:19:19)	1	475	655	37.8	0	0	0	05	05

## 3.3 Economic Impact of FLD

KVK	Technology	Name of Crop/ Enterprise	Param	eters		Cost cultiva (Rs/l	ation	Gross Ro (Rs/h		Average No		Benefit Ratio ( Retu	Gross rn /
Name	demonstrated		Name and unit of Parameter	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )	<b>FP</b> ( <b>T</b> <sub>1</sub> )	RP (T <sub>2</sub> )	<b>FP</b> ( <b>T</b> <sub>1</sub> )	RP (T <sub>2</sub> )	FP (T <sub>1</sub> )	RP (T <sub>2</sub> )
	SEED CUM FERTILIZER DRILL FOR LINE SOWING OF Rice	Rice	No. of panicles m <sup>-2</sup>	227	238	42250	34600	70702	74119	28452	39519	1.67	2.14
	TRACTOR DRIVEN AXIAL FLOW MULTI- CROP THRESHER FOR RICE THRESHING	Rice	Energy required for threshing one tonne of crop (kW h)	10	19	23875	18560	41803	45913	17928	27353	1.75	2.47
	ZERO TILL SEED CUM FERTILIZER DRILL FOR LINE SOWING OF WHEAT	Wheat	No. of panicles m <sup>-2</sup>	162	178	23875	18560	41803	45913	17928	27353	1.75	2.47
	SEED CUM FERTILIZER DRILL FOR LINE SOWING OF CHICKPEA	Chickpea	No. of pods per plant	32	47	40270	50980	59777	87858	19507	36500	1.48	1.72

use of Trichoderma as seed treatment and Soil treatment to control wilt of chickpea	Chickpea	Disease incidence/sq.m.	6.40	10.36	20825	17825	48577	35852	12950	28780	2.10	2.60
performance of Oyster mushroom variety Indira Sweta	Mushroom	Yield (kg/5 bags)	2.45	3.15	236	116	364	378	128	262	0.55	0.68
use of Plant Growth Regulator (PGR) to increase female flower and yield in Bitter Gourd	Bittergourd	No. of fruits / plant	39.2	62.3	80200	84800	203720	286110	123520	201310	2.50	3.37
Demonstration on foliar application of water soluble fertilizer on growth and yield of Cauliflower.	Cauliflower	Curd weight(g)	575	701	85000	92000	458500	320325	235625	366500	3.77	4.89

## 3.4 Information about Home Science FLDs - (For All Thematic Area0029

KVK name	Year	Seaso n	Thematic Area	Problem Identified	Technology to be Demonstrate d as Solution to the Identified Problem	Crop/ Enterprise (In which crop Enterprise or Farming Activity)	Name of Variety/Technology/Entr eprizes	Farming Situation	Proposed area (ha)	No. of Beneficiaries
Bhata para	2017 -18	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

3.5 (A) Economic Performance Home Science FLD: (For Drudgery Reduction)

KVK	OFT Title								Per	formance	Indicato	or / Parame	ter		
name		Outpu	ut m2/h		Energy		HR	% reduct		% incr			Cost of	_	of cardiac
					nditure min.	beat	/min	drudg	ery	effici	ency	Wo	ork		ost
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
Bhatapara	2017-18	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

#### 3.5 (B) Economic Performance Home Science FLD: (For Income Genration)

KVK	OFT Title					Perfo	rmance In	dicator / Pa	rameter				
name		Produc	ction per	Cost	of input	Incre	mental	Yield(K	g/ha)	Net R	eturn	Saving in	BC ratio
		u	nit			inc	ome					Rs	
		<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>		
Bhatapara	2017-18	Nil	Nil	Nil	Nil	Nil	Nil						

#### 3.5 (C) Economic Performance Home Science FLD: (For value addition)

KVK	OFT					P	erformance I	ndicator	/ Paran	neter					
name	Title	Comp	osition	Inpu	t used	outco	ome (Kg)	Cost o	f input	Increm	ental	N	et	Saving	BC
		of p	roduct							inco	me	Ret	urn	in Rs	ratio
		<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	T2	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>		
Bhatapara	2017-18	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

#### 3.5 (D) Economic Performance Home Science FLD: (For Nutritional security)

KVK	OFT	Perform	ance Indicato	r / Pa	rameter		N	Vutri	ent I	ıtake	(Un	it)		Anthro	pome	tric me	asure	ments	
name	Title		me of		r capita	Ene	ergy	Pro	tein	Iro	on	Calc	ium	Increase i		Incre		Incre	
		vegetable/I	Fruit/Product		sumption	(kc	al)	(g	m)	(m	g)	(m	g)	Weight (K	g)	in Hei	ight	in Bl	
				g	m/ day											(cm	)	(%	)
		<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>	<b>T1</b>	<b>T2</b>
Bhatapara	2017-	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	18	1411																	

## 3.6 Training and Extension activities proposed under FLD

KVK Name	Стор	Activity	No. of activities organized	Number of participants	Remarks
Bhatapara	Rice	FW training, Field day	FW training, Field day	55	

Bhatapara	Wheat	FW training	FW training, Field day	45	
Bhatapara	Chickpea	FW training	FW training, Field day	60	
Bhatapara	Mushroom	FW training	FW training, Field day	25	
Bhatapara	Bittergourd	FW training	FW training, Field day	35	
Bhatapara	Cauliflower	FW training	FW training, Field day	45	

## 3.7 Details of FLD on crop hybrids.

S.	Name of the	Name of the	Name of the	Source of Hybrid	No. of	Area in
No.	KVK	Crop	Hybrids	(Institute/Firm)	farmers	ha.
1	Bhatapara	NIL	NIL	NIL	NIL	NIL

# 4. Feedback System 4.1. Feedback of the Farmers to KVK

Name of KVK		Feedbac	k	
	Technology appropriations	Methodology used	Benefits of OFT/FLD	Future Adoption

## 4.2. Feedback from KVK to Research System.

Name of KVK	Feedback basic of OFT on Technology Tested

4. Documentation of the need assessment conducted by the KVK for the training programme

Name of KVK	Category of the training	Methods of need assessment	Date and place	No. of participants involved
Bhatapara	IS (Monthly Workshop)	Group discussion and survey	KVK, Bhatapara	30-35 Agril. Extension Officers in each Training.

## **Abbreviation Used**

FW	(A) Farmers & Farm Women
RY	(B) Rural Youths
IS	(C) Extension Personnel
ONC	On Campus Training Programme
OFC	Off Campus Training Programme
M	Male
F	Female
T	Total
Thematic Areas for Ti	raining
CRP	Crop Production
HOV	Horticulture – Vegetable Crops
HOF	Horticulture-Fruits
HOO	Horticulture- Ornamental Plants
HOP	Horticulture- Plantation crops
HOT	Horticulture- Tuber crops
HOS	Horticulture- Spices
HOM	Horticulture- Medicinal and Aromatic Plants
SFM	Soil Health and Fertility Management
LPM	Livestock Production and Management
WOE	Home Science/Women empowerment
AEG	Agril. Engineering
PLP	Plant Protection
FIS	Fisheries
PIS	Production of Inputs at site
CBD	Capacity Building and Group Dynamics
AGF	Agro-forestry
OTH	Others

#### 5. TRAINING PROGRAMMES

- 1. Training programmes should be strictly covered under above mentioned thematic areas only,
- 2. For category, training type and thematic area, mention code/abbreviations only

Table 5.1. Details of Training programmes conducted by the KVKs

Name	Cate-	Training	Thematic	Training Title	No. of	Duration				Partic	cipants			
of	gory	Type	area		Courses	(Days)	(	Gen	,	SC	<u> </u>	ST	Ot	hers
KVK							M	F	M	F	M	F	M	F
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16
Bhatapara	FW	OFC	AEG	Use of tractor drawn mould board plough for primary tillage	1	1	-	-	5	-	15	-	17	-
Bhatapara	FW	OFC	AEG	Use of tractor drawn rotavator for seed bed preparation	1	2	15	-	-	-	5	-	-	-
Bhatapara	FW	OFC	AEG	Digging of pits by tractor mounted post-hole digger.	1	1	17	-	-	-	3	-	-	-
Bhatapara	FW	OFC	AEG	Spraying by power sprayer in mango orchard	1	1	15	-	-	-	-	-	12	-
Bhatapara	FW	OFC	AEG	Use of power weeder in banana orchard	1	1	10	-	5	-	5	-	-	-
Bhatapara	FW	OFC	AEG	In-line drip irrigation system for onion.	1	1	2	-	3	-	10	-	10	-
Bhatapara	FW	OFC	AEG	Construction of low-cost onion storage structure	1	1	3	-	12	-	15	-	-	-
Bhatapara	FW	OFC	AEG	Use of tractor drawn zero-till drill for sowing of green gram	1	2	5	-	-	-	15	-	-	-
Bhatapara	FW	OFC	AEG	Use of tractor drawn multi- crop planter for line sowing of ground nut	1	2	10	-	5	-	15	-	-	-
Bhatapara	FW	OFC	AEG	Use of tractor drawn seed cum fertilizer drill for dry seeding of upland paddy	1	1	5	-	10	-	-	-	14	0
Bhatapara	FW	ONC	HOV	Post harvest management of Horticultural crops	1	1	10	-	5	-	15	-	-	-
Bhatapara	FW	ONC	HOF	Management of fruit orchards	1	1	4	_	8	-	13	-	_	-

Name	Cate-	Training	Thematic	Training Title	No. of	Duration				Partic	ipants			
of	gory	Type	area		Courses	(Days)	(	Gen	,	SC	\$	ST	Otl	hers
KVK							M	F	M	$\mathbf{F}$	M	F	$\mathbf{M}$	F
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16
Bhatapara	FW	ONC	HOP	Orchard establishment technique	1	1	10	-	5	-	13	1	-	-
Bhatapara	FW	ONC	HOV	Nursery raising in Vegetable	1	1	-	10	-	-	-	5		5
Bhatapara	FW	ONC	HOV	Weed management in Vegetables	1	1	10	-	5	-	15	ı	-	-
Bhatapara	FW	ONC	PLP	Judicious use of pesticide in vegetables	1	1	7	-	5	-	8	-	12	-
Bhatapara	FW	OFC	HOV	Nursery plant production techniques	1	1	10	-	5	-	5	-	-	-
Bhatapara	FW	ONC	ОТН	Low cost storage techniques in vegetable	1	1	-	-	-	-	-	10	-	10
Bhatapara	FW	ONC	HOV	Low cost storage technique of Horticultural crops	1	1	7	-	5	-	8	-	10	-
Bhatapara	FW	OFC	HOV	Production technique of Rabi vegetable crops	1	1	10	-	5	-	15	-	-	-
Bhatapara	FW	OFC	HOV	Water management in vegetables	1	1	8	-	6	-	6	-	10	-
Bhatapara	FW	OFC	PLP	Management of rice disease	1	1	3	-	7	-	10	-	10	-
Bhatapara	FW	OFC	PLP	Identification of rice insect & their control	1	1	10	-	5	-	15	-	-	-
Bhatapara	FW	OFC	PLP	Insect pest management in kharif crops	1	1	7	-	5	-	8	-	12	-
Bhatapara	FW	OFC	PLP	Making of Trichoderma viride	1	1	4	-	8	-	13	-	-	-
Bhatapara	FW	OFC	PLP	Disease management in vegetable crops	1	1	10	-	5	-	15	-	-	-
Bhatapara	FW	OFC	PLP	Insect pest management in rabi crops	1	1	3	-	7	-	10	-	18	-
Bhatapara	FW	OFC	PLP	Mushroom production	1	1	-	-	-	10	-	10	-	-
Bhatapara	FW	OFC	PLP	Disease management in pulse crops	1	1	10	-	5	-	15	-	-	-
Bhatapara	FW	OFC	PLP	Disease management in oilseed crops	1	1	9	-	4	-	7	-	12	-
Bhatapara	FW	OFC	SFM	Integrated Nutrient Management in Rice	1	1	4	-	8	-	13	-	-	
Bhatapara	FW	OFC	SFM	Integrated Nutrient Management in Soybeam	1	1	10	-	5	-	15	-	-	-
Bhatapara	FW	OFC	SFM	Importance of Soil Testing	1	1	7	-	5	-	8	-	10	_
Bhatapara	FW	OFC	SFM	Method of Soil Sampling	1	1	3	-	7	-	10	-	12	_
Bhatapara	FW	OFC	SFM	Soil test based fertilizer recommendation	1	1	10	-	5	-	15	-	_	-
Bhatapara	FW	OFC	SFM	Importance of micronutrient and its management	1	1	9	-	14	-	17	-	12	-
Bhatapara	FW	OFC	SFM	Bio fertilizer application methods	1	1	4	-	8	-	13	-	-	-
Bhatapara	FW	OFC	SFM	Integrated Nutrient Management in Wheat	1	1	4	-	7	-	14	-	10	
Bhatapara	FW	OFC	SFM	Integrated Nutrient Management in Chickpea	1	1	10	-	5	-	15	-	-	-

Name	Cate-	Training	Thematic	Training Title	No. of	Duration				Partic	ipants			
of	gory	Type	area		Courses	(Days)	(	Gen	\$	SC	\$	ST	Otl	hers
KVK							M	F	M	F	M	F	M	F
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16
Bhatapara	FW	OFC	CRP	SRI method of rice cultivation	1	1	8	-	13	_	19	-	12	-
Bhatapara	FW	OFC	CRP	Scientific method of Pigeon pea cultivation	1	1	7	-	5	-	8	-	14	-
Bhatapara	FW	OFC	CRP	Scientific method of Chickpea cultivation	1	1	4	-	8	-	13	-	-	-
Bhatapara	FW	OFC	CRP	Scientific method of Wheat cultivation	1	1	10	-	15	-	15	-	-	-

## Table 5.2. Details of Vocational training programmes for Rural Youth conducted by the KVKs

				Duration	Num	ber of	Bene	eficiari	es			
Name of KVK	Training title	Crop / Enterprise	Identified Thrust Area	of training	Gen		SC		ST		Othe	ers
				(days)	M	F	M	F	M	F	M	F
Bhatapara	Nursery raising of fruits and vegetables	Nursery	Income generation	6	5	-	4	-	-	5	7	-
Bhatapara	Commercial cultivation of aeromatic rice	Rice	Crop production	6	4	-	2	-	1	ı	18	-
Bhatapara	Gardener training	Fruits and vegetables	Income generation	6	7	-	2	-	2	-	9	-

## Table 5.3. Details of training programme conducted for livelihood security in rural areas by the KVKs

Name of	Training title		Self employed after training		Number of
KVK		Type of units	Number of units	Number of persons employed	persons employed else where
Bhatapara	Nil	Nil	Nil	Nil	Nil

**Table 5.4. Sponsored Training Programmes** 

			Sub-				No.	of	Parti	cipa	nts					Fund
Name of KVK	Title	Thematic area (as given in abbreviation		Client (FW/ RY/ IS)	Duration (days)	No. of courses	Ge	en	Oth	iers	S	С	S'		Sponsoring Agency	received for training (Rs.)
		table)	Table T1)	10)			M	F	M	F	M	F	M	F		

Bhatapara	Organic Farming	Soil health management	FW	1	1	25	-	12	ı	3	-	5	-	ATMA	-
Bhatapara	Protected cultivation	Income generation	FW	1	1	6	-	8	ı	12	-	9	-	ATMA	-
Bhatapara	Organic Farming	Soil health management	FW	1	1	16	-	8	-	6	-	15	-	ATMA	-
Bhatapara	Integrated Nutrient Management	INM	FW	1	1	25	-	12	-	3	-	5	-	ATMA	-
Bhatapara	Organic Farming	Soil health management	FW	1	1	16	-	8	-	6	-	15	-	ATMA	-
Bhatapara	Crop production technology of rice	Crop production	FW	1	1	10	-	12	-	8	-	10	5	ATMA	-
Bhatapara	Plant Protection Technology of Rice	IDM	FW	1	1	18	-	8	4	8	-	7	3	ATMA	-
Bhatapara	Nursery Management	Income generation	FW	1	1	25	7	8	5	15	-	10	-	ATMA	-
Bhatapara	Organic Farming	Soil health management	FW	1	1	25	-	12	-	3	-	5	-	ATMA	-

Table 5.5 Training Programmes for Panchayati raj Institutions Office-bearers & members

			Sub-				No.	of :	Part	icipa	nts					Fund
Name of KVK	Title	Thematic area (as given in abbreviation	theme (as per column no 5 of	Client (FW/ RY/ IS)	Duration (days)	No. of courses	Ge	en	Otl	hers	S	C	S		Sponsoring Agency	received for training (Rs.)
		table)	Table T1)	15)			M	F	M	F	M	F	M	F		

Table 5.6 Evaluation/Follow up & Impact of the training programmes conducted by the KVK (all types of trainings)

Name of	Title of the training	No. of trainees	Change in knowled (Score)		Change in Production	ı (q/ha)	Change i (Rs)	n Income	Impact on 1. Area expanded (ha) 2. No. of farmers adopted (no.)
KVK			Before	After	Before	After	Before	After	3. % change in knowledge, production & Income

#### **6. EXTENSION ACTIVITIES**

Name of the			ATENSIO			ticipants	}				Remarks	
KVK	Activity	No. of activities (Targete	No. of activities (Achieve	Farm (Othe	ers	SC/ST (Farme		Exte n Offic		Purpos	Topic s	Crop Stages
		<b>d</b> )	d)	M	F	M	F	M	F			Stages
	Advisory Services	40	28	39100	25789	55572	24561	245	18			
	Agri mobile clinic	-	-	-	-	-	-	-	-			
	Animal Health Camp	_	-	-	-	-	-	-	-			
	Awareness programme	-	02	327	150	278	130	12	03			
	Celebration of important days	-	05	389	108	387	210	5	01			
	Diagnostic visits	50	65	28	02	25	10	4	1			
	Exhibition	-	-	-	-	-	-	-	-			
	Exposure visits	-	04	427	-	210	-	-	-			
	Extension Literature	-	-	-	-	-	-	-	-			
	Ex-trainees Sammelan	-	-	-	-	-	-	-	-			
	Farm advisory Services	-	-	-	-	-	-	-	-			
	Farm Science Club conveners meet	-	-	-	-	-	-	-	-			
	Farmers Seminar/Workshop	-	-	-	-	-	-	-	-			
	Farmers visit to KVK	500	3600	1635	443	935	588	-	-			
	Field Day	08	08	74	11	21	15	03	01			
	Film Show	-	06	Mass	mass	mass	mass	mas s	mass			
	Group meetings	-	-	-	-	-	-	-	-			
	Interface	-	-	-	-	-	-	-	-			
	Kharif Sammelan	-	-	-	-	-	-	-	-			
	Kisan Ghosthi	02	03	175	15	28	07	03	01			
	Kisan Mela	02	03	837	411	495	395	36	04			
	Krishi Gyan Doot meet	-	-	-	-	-	-	-	-			
	Krishi Mahotsav	-	-	-	-	-	-	-	-			
	Lectures delivered as resource persons	-	-	-	-	-	-	-	-			
	Mahila Mandals conveners meetings	-	-	-	-	-	-	-	-			
	Method Demonstrations	-	-	-	-	-	-	-	-			
	Newspaper coverage	10	28	Mass	mass	mass	mass	mas s	mass			
	Popular articles	-	-	-	-	-	-	-	-			
	Pradhanmantri phasal bema yojana	-	-	-	-	-	-	-	-	_		
	Radio talks	-	-	-	-	-	-	-	-			

Name of the		No. of	No. of	Detail	of Par	ticipants	}				Remarks	
KVK	Activity	ctivity activities (Targete (Achieve		Farmers (Others) SC/ST (Farmers)		Extensio n Officials		Purpos e	Topic s	Crop Stages		
	<b>d</b> ) <b>d</b> )		<b>a</b> )	M	F	M	F	M	F			<b>g</b>
	Scientific visit to farmers field	30	36	30	01	11	02	2	1			
	Self Help Group conveners meetings	-	-	-	-	-			-			
	Soil health Camp	01	01	303	175	235	58	35				
	Soil test campaigns	-	-	-	-	-	-	-				
	Summer deep plougning	-	05	-	-	05	-	-	-			
	Technology Week	-	-	-	-	-	  105 03		-			
	TV talks	-	-	-	-	-			-			
	Workshop	-	11	191	01	105			-			
	Others	_	-	-	-	-	-	-	-			

## 7. Literature Developed/Published (with full title, author & reference)

#### 7.1 KVK Newsletters

KVK Name	Date of start	Periodicity	Number of copies printed	Number of copies distributed
Bhatapara	No. (April-June, 2017)	Quarterly	500	500
Bhatapara	No. (July-September, 2017)	Quarterly	500	500
Bhatapara	No. (October- December,2017)	Quarterly	500	500
Bhatapara	No.(January-March,2018)	Quarterly	500	500

7.2 Literature developed/published

KVK Name	Type	Title	Author's name	Number of copies
Bhatapara	Extension folder	Mustard Production Technology	Dr. Angad Singh Rajput	
Bhatapara	Extension folder	Cowpea Production Technology	Dr. Angad Singh Rajput	
Bhatapara	Extension folder	Postharvest Management	Savita rajput	
Bhatapara	Extension folder	Production technology of leafy vegetable	Savita rajput	
Bhatapara	Extension folder	Vermicomposting	Savita rajput	
Bhatapara	Extension folder	Sulphur management in mustard	Pradeep Kumar	
Bhatapara	Extension folder	Importance of soil testing	Pradeep Kumar	
Bhatapara	Extension folder	Disease management in mustard	Deepmala Kindo	
Bhatapara	Extension folder	Insect management in mustard	Deepmala Kindo	

## 7.3 Details of Electronic Media Produced

KVK Name	Type of media (CD / VCD / DVD / Audio-	Title of the programme	Number
	Cassette)		
Bhatapara	Nil	Nil	Nil

## 8. Production and supply of Technological products

## 8.1 SEED production

KVK Name	Major group/class	Crop	Variety	Quantity (qt.)	Value (Rs.)	Provided to No. of Farmers	Expected area coverage (ha.)
Bhataparaa	Pulses	Pigeon pea	Rajeev Lochan	22.00	-	-	2.00
		Rice	Maheshwari	21.00	-	-	1.00
		Soybean	JS-9752	6.97	-	-	2.00
		Chickpea	JG-14		-	-	2.00
		Field pea	Paras		-	-	0.40
		Wheat	GW-366		-	-	0.40
			MP-1203		-	-	0.40
		Linseed	Indira Alsi		-	-	
		Pigeonpea	Rajeev Lochan	150	-	-	35.98
		Field pea	Paras	70	-	-	14.8
		Chickpea	JG-14	200	-	-	36.8
		Lathyrus	Prateek	73	-	-	06

## 8.2 Planting Material production

KVK Name	Major group/class	Crop	Variety	Nos.	Value (Rs.)	Provided to No. of Farmers	Expected area coverage (ha.)
Bhatapara		Papaya	Red Lady	1000	20/-	800	
Bhatapara		Drumstick	PKM-1	1000	20/-	700	
Bhatapara	Vegetable	Cauliflower	Pusa Kartik	5000	1/-	50	
Bhatapara	Vegetable	Tomato	Arka Rakshak	10000	1/-	70	
	Vegetable	Cabbage	Golden Acre	5000	1/-	50	
	Vegetable	Knolkhol	White Viana	5000	1/-	50	

## 8.3 Production Units (bio-agents / bio pesticides/ bio fertilizers etc.) \* Name of product should follow same pattern and spelled correct

KVK Name	Major Group Bio agent/Bio fertilizers/Bio Pesticides	Name of the Product	Qty (In Kg)	Qty (In No)	Value (Rs.)	Provided to No. of Farmers	Expected area coverage (ha.)
Bhatapara	Bio Agents						
Bhatapara	Bio Agents						
Bhatapara	Bio Fertilizer	Vermicompost	5000		10/- per kg		
Bhatapara	Bio Fertilizer						

8.4 Livestock and fisheries production

KVK Name	Name of the animal / bird / aquatics	Breed	Type of Produce	Qty. (kg/qt./litre)	Value (Rs.)	No. of Beneficiaries
Bhatapara	NIL	NIL	NIL	NIL	NIL	NIL

- 9. Activities of Soil and Water Testing Laboratory
- 9.1 Details of soil samples analyzed so far

KVK Name	Status of establishment of Lab	Year of establishment	Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized	Soil report distributed to the farmers (Nos)
Bhatapara	Working	2014	-	165	185	15	-	185

## 9.2 Details of water samples analyzed so far:

KVK Name	Status of establishment of Lab	Year of establishment	Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized	Water report distributed to the farmers Bhatapara(Nos)
Bhatapara	Working	2014	-	NIL	-	-	-	-

## 10. Rainwater Harvesting

Training programmes conducted by using Rainwater Harvesting Demonstration Unit

Name of KVK	Date	Title of the training course	Client (PF/RY/EF)	No. of	including SC/ST			No. of SC/ST Participants		
KVK				Courses	Male	Female	Total	Male	Female	Total
Bhatapara	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL

#### 11. Utilization of Farmers Hostel facilities

KVK Name	Months	Year	Title of the training course	Duration of training	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)	Accommodation available (No. of beds)
Bhatapara	-	2016- 17	*Used for DKSCARS, Bhatapara	-	-	ı	-	-

## 12. Utilization of Staff Quarters facilities

KVK Name	Year of construction	Year of allotment	No. of quarters occupied	No. of quarters vacant	Reasons for vacant quarters, if any
Bhatapara	-	-	-	-	-

#### 13. Details of SAC Meeting

KVK Name	Date of SAC meeting	No. of SAC members attended	Major recommendations
Bhatapara	20.07.2017	60	

## 14. Status of Kisan Mobile Advisory (KVK-KMA)

<b>KVK Name</b>	No. of	No. of beneficiary		Number of villages	Sponsoring agency	Major recommendations
	messages			covered	(NIC, Farmers Portal,	
	sent				etc.)	
		Farmers	Ext. Pers.			
Bhatapara	28	145700	177	All 954 villages of	M Kisan	
				the district		

## 15. Status of Convergence with various agricultural schemes (Central & State sponsored)

KVK Name	Name of scheme	Name of Agency (Central/state)	Funds received (Rs.)	Activities organized	Operational Area	Remarks
Bhatapara	Nil	Nil	Nil	Nil	Nil	Nil

## 16. Status of Revolving Funds (Rs.)

KVK Name	Account No.	Opening balance (Rs.)	Closing balance (Rs.)	Current status (Rs.)
Balodabazar-Bhatapara	10721612251	222803		23414

## 17. Awards & Recognitions

K	XVK Name	Name of award /awardee	Type of award (Ind./Group/Inst./Farmer)	Awarding Organizations	Amount received
В	Shatapara	Nil	Nil	Nil	Nil

## 18. Details of KVK Agro-technological Park .

a) Have you prepared layout plan, where sent?

S .No.	Name of KVK	Technology park proposal developed(yes/no)	If yes, where sent ? (ZPD/DES/any other, pl. sp.)
1.	Balodabazar-		
	Bhatapara	YES	DES

b) Details about Technology Park

Name of KVK	Name of Component of Park	Detail Information (If established)
Balodabazar-	Crop Cafeteria	Kharif Crop Cafeteria-2016-17
Bhatapara		1. Demonstration of thirty improved variety of Rice- swarna,mahamaya,Sonamasuri, Chandrahasini, Purnima and MTU-1010
		2. Demonstration of Seven varieties of colocasia- Indira Arbi-1, IGSCOL-K10-2, IGSCOL-BL-12-1, White Growing, IGSCOL-K10-1, IGSCOL-E-6, IGSCOL-JS-12-1
		Rabi Crop Cafeteria-2016-17
		1. Demonstration of Eleven varieties of Wheat – MP-1203,HI-1544,CG-3,CG-04,GW-23,CG-1023,MP-1215,Ratan,GW-273,GW-366
		2. Demonstration of eighth Varieties of Chickpea – JAKI, JG-14, JG-130, JG-226, Indira chana, RJ-2009-16,
Balodabazar-	Technology Desk	Available in KVK
Bhatapara		
Balodabazar-	Visitors Gallery	
Bhatapara		

Balodabazar-	Technology Exhibition	Developed at KVK
Bhatapara		
Balodabazar-	Technology Gate-Valve	1) Zero tillage
Bhatapara		2) Utera wheat
1		3) Rabi arhar
		4) Green Shed Net House
		5) Integrated Pest Management (IPM)
		6) Integrated Nutrient Management (INM)
		7) Kitchen Garden
		8) Fruit Plantation
		9) Azola unit
		10) Vermi Composting unit

c). Crop Cafeteria-

Sr. No.	Theme of Crop Cafeteria	No. of Crop Cafeteria

#### 19. Farm Innovators- list of 10 Farm Innovators from the District

Sr. No.	Name of KVK	Name of Farm Innovator	Name of the Innovation	Address of the farmer with Mobile No.
01	Bhatapara	Patiram Jaiswal	Fruits and vegetable cultivation in rice bunds	Village-Kote, Block Kasdol, District-Balodabazar-Bhatapara, Mob. No.9425512707

## 20. KVK interaction with progressive farmers

Sr. No.	Date and month of interaction programme with progressive farmers	No. of progressive farmers to be participated
01	Nil	Nil

#### 21. Outreach of KVK

Name of KVK	Number	Number of Villages		
	Intensive	Extensive	Intensive	Extensive
Balodabazar-Bhatapara	03	06	09	954

Intensive- OFTS, FLDS etc

Extensive- Literatures, Publications, Awareness programmes etc.

## 22. Technology Demonstration under Tribal Sub Plan on Pulses/ Programme on Harnessing Pulses/ Quality Protein Maize, if applicable.

Sr. No.	Name of crop under Technology demonstration	Area under the programme	No. of Extension Activities	Remarks / Lessons learnt
01	Nil	Nil	Nil	Nil

## 23. KVK Ring

Sr. No.	Name of Ring Partner	Sharing Activity	Lessons learnt/ Experiences gained.
01	Mahasamund	-	-
02	Kawardha	-	-

## 24. Important visitors to KVK

Name of KVK	Name of Visitor	Date of Visit	ICAR	SAUs	Others	Remarks
Bhatapara	Dr. Anupam	12.10.2018	01			
	Mishra					
Bhatapara	Mohd. Usman	07.02.2018	01			
Bhatapara	Dr. S.K. Patil	15.02.2018		01		
Bhatapara	Dr. S.K.Jha	13.04.2017				
Bhatapara	Dr. S.S.Rao	15.02.2018		01		
Bhatapara	Dr. S.S. Senger	10.11.17,				
		29.11.2017				
		30.03.18,				
Bhatapara	Dr. Aashana	19.09.2017		01		
Bhatapara	Dr. M.K.Singh	02.02.18		01		
Bhatapara	Dr. Johnson	02.02.18		01		
Bhatapara	Dr. N.K. Rastogi	19.09.2017,		01		
		30.03.18				
Bhatapara	Dr. Deepak	19.09.2017,		01		
	Gauraha	30.03.18				
Bhatapara	Dr. Anil	28.09.17				
	Kostasthane					
Bhatapara	Dr.Divya Sahare	25.01.2018		01	01	
Bhatapara	Dr. Shivratan	28.08.17,			01	
	Sharma					
Bhatapara	Smt. Poonam	05.12.17,			01	
	Markandey	15.10.2017				
Bhatapara	Shri Ashwani	05.12.17			01	
	Sharma					
Bhatapara	Smt. Bharti Verma	05.12.17,			01	
		15.10.2017				
Bhatapara	Shri Paras	05.12.17			01	
	Dewangan					

Bhatapara	Shri Amar	19.09.2017,	01	
	Mandavi	05.12.17,		
		30.03.18,		

## 25. Status of KVK Website:

Sr. No.	Name of KVK	Date of start of website	No. of updates since inception	No. of visitors
1	Balodabazar-Bhatapara	01.06.2014	06	1298

## **26. E-CONNECTIVITY**

Name of KVK					No. of lectors organized by KVK	Brief achievements	Remarks
	Date	attended	No. of call received from Hub	mate to Hub by KVK	organized by KVK	acmevements	
	Nil	Nil	Nil	Nil	Nil	Nil	Nil

## 27. Status of RTI

	r. Vo.	Name of KVK	No. of RTI applications received	No. of RTI appeals	Remarks
0	1	Balodabazar-Bhatapara	Nil	Nil	

#### 28. Status of Citizen Charter

Sr.	Name of KVK	Query received( Nos)	Query Disposed( Nos)	Remarks
No.				
01	Balodabazar-Bhatapara	Nil	Nil	

29. Attended HRD Programmes organized by ZPD

Name of	Name of Staff	Post held	Programme	Remarks
KVK			attended (Nos)	
Bhatapara	Dr. A.S.Rajput	Senior Scientist & Head	07	
Bhatapara	Shri P.D.Verma	SMS (Agriculture Engg.)	03	
Bhatapara	Smt. Deepkala Thakur	Programme Asstt.	02	

Name of KVK	Total Number of staff Attended HRD	Total Number of Programme attended (Nos)
	Programme organized by ZPD (nos)	
Bhatapara	03	12

30. Attended HRD Programmes organized by DES

Name of KVK	Name of Staff	Post held	Programme attended (Nos)	Remarks
Bhatapara	Dr. A.S.Rajput	Senior Scientist & Head	13	
Bhatapara	Smt. Savita Rajput	SMS (Horticulture)	01	
Bhatapara	Shri P.D.Verma	SMS (Agriculture Engg.)	03	
Bhatapara	Smt. Deepmala Kindo	SMS (Plant Pathology)	04	
Bhatapara	Smt. Deepkala Thakur	Programme Asstt.	02	
TOTAL	23			

Name of KVK	Total Number of staff Attended HRD Programmes organized by DES	Total Number of Programmes attended
	(nos)	(Nos)
Bhatapara	05	23

31. Attended HRD Programmes by KVK Staff (Refresher course, Short course, Training programme etc.)

Name of KVK	Name of Staff	Post held	Programmes attended (Nos)	Remarks
Bhatapara	Nil	Nil	Nil	Nil

Name of KVK	Total Number of staff Attended HRD Programmes by KVK staff (nos)	Total Number of Programmes attended (Nos)

## 32. Agri alert report (Epidemic, high serious nature problem, Cyclone etc. reported first time to ZPD, SAU, Agri. Deptt. and ICAR)

Name of KVK	Alert observed	Particulars	Reported to organization
Bhatapara	-	-	-

## 33. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS

Name of KVK	Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
Bhatapara	Gosthies	03	450	
Bhatapara	Lectures organised	09	mass	
Bhatapara	Exhibition	03	mass	
Bhatapara	Film show	01	1160	
Bhatapara	Fair	06	4619	
Bhatapara	Farm Visit	3600	3600	
Bhatapara	Diagnostic Practicals	02	114	Varietal Evaluation
Bhatapara	Distribution of Literature (No.)	05	560	
Bhatapara	Distribution of Seed (q)			
Bhatapara	Distribution of Planting materials (No.)	1720		
Bhatapara	Bio Product distribution (Kg)	-	-	
Bhatapara	Bio Fertilizers (q)	60.00	52	
Bhatapara	Distribution of fingerlings	-	-	
Bhatapara	Distribution of Livestock specimen (No.)	-	-	
Bhatapara	Total number of farmers visited the technology week	3600	3600	
Bhatapara	Animal health camp	-	-	
Bhatapara	Awareness programme	-	-	
Bhatapara	Cashless Transaction Week	-	-	
Bhatapara	Celebration of important days (Parthenium eradication week, Swachhata Abhiyan and Soil Health Day,International Women Day,National Integrity Day,World environment day,World forestry day,World Water Day)	05	1958	
Bhatapara	Demonstration	08	89	
Bhatapara	Exposure visit	03	137	
Bhatapara	Extension activity			
Bhatapara	Ex-trainees Meet	-	-	
Bhatapara	Farmer scientist interaction	02	293	
Bhatapara	Farmers Training	54	1245	

Bhatapara	Field Day	08	121	
Bhatapara	Field visit	28	28	
Bhatapara	Gajarghans Unmulan Pakhwada	01	125	
Bhatapara	Group Meeting	-	-	
Bhatapara	Hindi diwas pakhwada	-	-	
Bhatapara	Jai Kisan Jai Vigyan Sangoshthi	-	-	
Bhatapara	Narmada sewa Yatra	-	-	
Bhatapara	News Paper/Mass Media	28	mass	
Bhatapara	Plant health camp			
Bhatapara	Plant Protection Week	-	-	
Bhatapara	Scientists visits in farmers field	30	31	
Bhatapara	Seed treatment campaign			
Bhatapara	Self Help Group convener meet	-	-	
Bhatapara	Soil health Camp	01	781	
Bhatapara	Swachha Bharat Abhiyan	05	1013	
Bhatapara	Technology Week	-	-	
Bhatapara	Van Mahotsava	-	-	
Bhatapara	Others (Pl. Specify)	-	-	

#### 34. INTERVENTIONS ON DROUGHT MITIGATION

**Introduction of alternate crops/varieties** 

Name of KVK	Crops/cultivars	Area (ha)	Number of beneficiaries
Bhatapara	Nil	Nil	Nil

Major area coverage under alternate crops/varieties

Name of KVK	Crops	Area (ha)	Number of beneficiaries

Farmers-scientists interaction on livestock management

Name of KVK	Livestock components	Number of interactions	No. of participants
Bhatapara	NIL	NIL	NIL

Animal health camps organized

Name of KVK	Number of camps	No.of animals	No.of farmers
Bhatapara	NIL	NIL	NIL

Seed distribution in drought hit states

N	ame of KVK	Crops	Quantity (qtl)	Coverage of	Number of
				area (ha)	farmers
В	hatapara	NIL	NIL	NIL	NIL

Seedlings and Saplings distributed

Name of KVK		Crops	Quantity (No.s)	Coverage of area (ha)	Number of farmers
		Seedlings	<u>.</u>		
Bhatapara	Cauliflower	Vegetable	5000	50	
Bhatapara	Tomato	Vegetable	10000	70	
Bhatapara	Cabbage	Vegetable	5000	50	
Bhatapara	Knolkhol	Vegetable	5000	50	

**Bio-control Agents** 

Name of KVK	Bio-control Agents	Quantity (q)	Coverage of Area (ha)	No. of farmers
Bhatapara	Trichoderma	11.0	50	111

## **Bio-Fertilizer**

Name of KVK	Bio-Fertilizer	Quantity (kg)	Coverage of Area (ha)	No. of farmers
Bhatapara	Rhizobium and PSB	6qt	50	111

## **Verms Produced**

Name of KVK	Verms Produced	Quantity (q)	Coverage of Area (ha)	No. of Farmers
Bhatapara	Vermicompost	50	10/- per kg	52

Large scale adoption of resource conservation technologies

Name of KVK	Crops/cultivars and gist of resource conservation technologies	Area (ha)	Number of
	introduced		farmers
Bhatapara	Broad bed and furrow method of soybean cultivation	15	50

Awareness campaign

Name of KVK	Meetings	5	Gosthies		Field	days	Farmer	s fair	Exhibiti	on	Film sh	ow
	No.	No. of	No.	No. of	No.	No. of	No.	No. of	No.	No. of	No.	No. of
		farmers		farmers		farmers		farmers		farmers		farmers
Bhatapara	-	-	03	450	08	121	06	4619	03	mass	01	1160

## 35. Proposal of NICRA

## 1. Technologies to be Demonstrated

Name of Technology	Name of Crop	Area (ha.)	Yield	% change in Yield	No. of farmers benefitted
DSR	Paddy	4	41.64	4.83	10
Zero tillage	Wheat	4	28.15	9.83	10
Zero tillage	Mustard	2	11.90	22.05	5
Line sowing with seed drill	Chickpea	2	15.55	46.98	5

2. Proposed Extension Activities in NICRA Village

Name of Activity		Number of Participants/Beneficiaries to be Covered				
Name of Activity	Farmers	Farm Women	Official	Total		
Field Day	70	30	3	103		
Krishak Sangosthi	150	60	5	215		
Animal Health Camp	70	30	10	110		
Exposure Visits	200	50	6	256		

3. Proposed Training Activities in NICRA Village

Name of Activity		eficiaries to be Covered		
Name of Activity	Farmers	Farm Women	Official	Total
Farm Mechanization	20	10	2	32
Integrated Weed	20	10	2	32
Management				
Integrated Pest	20	10	2	32
Management				
Mushroom Cultivation	20	10	2	32
Livestock and Fisheries	20	10	2	32
<b>Employment Generation</b>	20	10	2	32
NRM	20	10	2	32

4. Proposed Activities for Fodder Bank

Established (Years)	Capacity	Current Status

5. Proposed Activities for Seed Bank

Established (Years)	Capacity	Current Status

6. Public Representative/District Administration Visited in NICRA Village

Name of Representative/Officer	Designation	Date of Visit	Any Special Remark by Visitors
Dr. Mohammed Osman	Principal Scientist	7.02.2018	
	(Agronomy)		

- 7. Feedback of Farmers for future improvement, if any.
- 36. Proposed works under NAIP (in NAIP monitoring format)
- 37. Case study / Success Story to be developed –

Two best only in the following format

Name of the KVK, TITLE, Introduction, KVK intervention, Output, Outcome, Impact, 2-3 Photographs with caption in .jpeg format.

Sr. no.	Name of KVK	No. of success stories	No. of case studies

38. Well labeled Photographs in .jpeg format for each activity of the KVK (Soft copies as well as hard copy- specially for all OFT along with the problem) –





Assessment of Hybrid cv. Arka Rakshak of Tomato





ASSESSMENT OF SEED CUM FERTILIZER DRILL FOR LINE SOWING OF PADDY





Assessment of Broad bed planter for broad bed method of soybean cultivation





Assessment of Zero till seed cum fertilizer drill for line sowing of mustard.





Assessment of Chemicals against Sheath Blight & insect pests of Rice





Assessment of *Trichoderma* in fusarium wilt of Brinjal