ICAR-Agriculture Technology Application Research Institute
Zone-VIII, Pune

Report of the Quinquennial Review Team (QRT)
for the period of 2011-12 to 2018-19

1	Name and location of KVK	MGM KVK, Gandheli, Aurangabad II
2	Name of the Head of KVK with postal address, Telephone / Mobile No. and email	Dr. Vasant Apparao Deshmukh, MGM KVK, Gandheli, Aurangabad II Telephone No. - 9404997772 Mobile No.- 9421055865 Email: mgmkvk@gmail.com
3	Name of District and State Head Qtrs.	ATARI VIII, Pune
4	Sanction order No. and date	Maharashtra/74-82 Nanded
5	Date of Establishment	August 2011
6	Name and Address of the Host Organization	Mahatma Gandhi Mission Trust, N-6, CIDCO, Aurangabad
7	Type of Host Organization (ICAR/SAU/NGO/Others)	NGO
8	Name of the chairman/president/ secretary of Host Organization with postal address, Telephone / Mobile No. and email.	Hon. Shri. Ankushraoji Nanasaheb Kadam, Mahatma Gandhi Mission Trust, N6, CIDCO, Aurangabad Telephone No. (0240) 2482236 Email - trustoffice@themgmgroup.com

9. Mandate and functions

Mandate	Functions/major activities
On-farm testing to assess the location specificity of agricultural Technologies under various farming systems	Varietal evaluation in Rabi Sorghum, INM in Cotton , Maize, Redgram, Weed management in Maize, IPM in Redgram, Sweet orange, Chili, Tomato, IPDM in Ginger, Sericulture, Flower drop management in pomegranate, Increase productivity in cattle, Reduce metabolic diseases, Health & nutrition of children and adolescent girls, Drudgery reduction of farm women
Organized Frontline demonstrations to establish production potential of Technology on the farmers' field.	Varietal evaluation in Pigeon pea, Chick pea, Soil test based nutrient management in Chick pea, Wheat, Onion, Pest management in Chick pea, Pigeon pea, Onion, Production of Milk yield of cattle, Disease incidence reduction, Health & nutrition of children and adolescent girls, Drudgery reduction of farm women
Capacity development of farmers and extension personnel to update their knowledge and skill in Frontier agricultural Technologies and Enterprises.	On & off campus trainings, Vocational trainings, Method demonstrations, Result oriented demonstrations, Kisan gosti, Group discussions, Field days, Diagnostic visits, FFS
Work as knowledge and resource Centre for improving overall agricultural economy in the operational area	Kisan Mela, Agricultural exhibition, Technology mohotsav, Mobile advisory, Resource person, Convergence with various line departments

10. Staff Position (based on Sanctioned Strength) and their mobility for the period under review

S. No.	Designation	No. of Sanctioned Posts	Name of person	Pay scale (Rs.)	Date of Joining	Date of Leaving	Reason for leaving if any
1	Sr. Scientist & Head	01	Dr. V.A.Deshmukh	Rs.37400-67000+ GP 9000/-	07/08/19	-	-
2	SMS – Agronomy	01	K.A.Sukase	Rs. 15600-39000-GP 5400	16/03/13	-	-
3	SMS - Plant protection	01	T.B.Chavan	Rs. 15600-39000-GP 5400	13/02/13	-	-
4	SMS – Home Science	01	Vaishali D.Deshmukh	Rs. 15600-39000-GP 5400	16/02/13	-	-
5	SMS -Horticulture	01	D. K. Jadhav	Rs. 15600-39000-GP5400	09/08/14	29/09/17	Opportunity in private sector
			S. A. Avachat	Rs. 15600-39000-GP5400	14/08/19	-	
6	SMS – Animal Science	01	Dr. G.P.Dhage	Rs. 15600-39000-GP5400	09/08/14	01/09/16	Selection in SAU
			Dr. U.T.Mundhe	Rs. 15600-39000-GP5400	03/08/19	-	
7	SMS -Soil Science	01	Dr. M.S.Waghmare	Rs. 15600-39000-GP5400	06/08/14	26/07/16	Selection in SAU `
			S.S.Wagh	Rs. 15600-39000-GP5400	13/02/17	-	-
8	Programme Assistant (Lab Technician)	01	D. P.Patil	Rs. 9300 – 34800-GP4200	16/02/13	-	-
9	Programme Assistant (Computer Programmer)	01	P. N. Gadhe	Rs. 9300 – 34800-GP4200	14/02/13	14/02/14	Entrepreneur
			A. D. Kadam	Rs. 9300 – 34800-GP4200	01/04/17	-	-
10	Programme Assistant (Farm Manager)	01	B. R. Bhosle	Rs. 9300 – 34800-GP4200	14/02/13	-	-
11	Accountant / Superintendent	01	R. D. Kadam	Rs. 9300 – 34800-GP4300	01/10/11	28/02/13	Deputation from host institute
			V. B Kadam	Rs. 9300 – 34800-GP4300	28/02/13	-	-
12	Stenographer	01	S. S. Karule	Rs.5200-20200 + GP 2400	03/08/19	-	-
13	Driver (Jeep)	01	S. B. Rajegore	Rs.5200-20200 + GP 2000	23/12/11	-	-
14	Driver (Tractor)	01	A. J.Wadal	Rs.5200-20200 + GP 2000	01/08/19	-	-
15	Supporting staff	01	V. B. Kadam	Rs. 5200-20200-GP1800	01/03/12	-	-
16	Supporting staff	01	G. D. Labade	Rs. 5200-20200-GP1800	18/12/13	-	-

11. Status of fund utilization (Rs. in lakh)

A. ICAR Main

S. No.	Budget Head	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		Total	
		S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U
A.	**Recurring contingencies**																		
1	Pay and allowances	5.00	5.00	14.50	9.53	30.00	32.37	34.50	46.55	67.11	68.60	54.08	54.93	59.00	59.11	69.25	81.28	**320.39**	**343.88**
2	Travelling allowances	0.50	0.50	0.50	0.05	2.00	0.26	0.60	0.16	1.00	0.31	1.50	1.01	1.18	0.80	0.50	0.50	**7.78**	**3.59**
3	Contingencies	3.20	3.19	4.50	4.76	6.10	6.89	2.17	8.70	9.00	5.90	17.30	12.97	11.57	10.04	10.25	12.71	**73.09**	**63.18**
	Total (A)	8.70	8.69	19.50	14.34	38.10	39.52	37.27	55.41	77.11	74.82	72.88	68.91	71.75	69.95	80.00	94.49	**401.26**	**410.65**
B.	**Non recurring contingencies**																		
1	Works	20.00	20.56	10.00	10.00	10.00	10.03	29.00	25.25	-	1.43	31.43	-	-	-	-	5.02	**100.43**	**72.29**
2	Equipments including SWTL & Furniture	11.45	11.95	-	1.73	-	-	-	-	-	1.55	6.60	5.95	-	-	-	0.00	**17.10**	**21.18**
3	Vehicle	6.50	7.43	7.50	7.50	-	-	-	-	--	-	-	-	-	-	-	-	**14.00**	**14.93**
4	Library	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**	**-**
	Total (B)	37.95	39.94	17.50	19.23	10.00	10.03	29.00	25.25	-	2.98	38.03	5.95	-	-	-	5.02	**131.53**	**108.40**
C.	**Other if any**	-	-	-	-	-	1.00	-	-	-	-	9.20	14.35	-	-	-	-	**9.20**	**15.35**
	Total (A+B+C)	**46.65**	**48.63**	**37.00**	**33.57**	**48.10**	**50.55**	**66.27**	**80.66**	**77.11**	**77.80**	**120.11**	**89.21**	**71.75**	**69.95**	**80.00**	**99.51**	**541.99**	**534.40**

S= Sanctioned U= Utilized

B. ICAR funded research/extension projects other than main

S.No.	Name of the project	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		TOTAL	
		S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	NICRA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	ARYA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	VATICA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	KSHAMTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	NARI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

C. Projects other than ICAR (Through ATARI or Direct to Host Institute)

S.No.	Name of the project	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		TOTAL	
		S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U	S	U
1	CFLD on Pulses	-	-	-	-	2.40	2.40	1.50	1.28	1.50	1.48	3.00	2.77	0.75	1.73	3.6	1.66	12.75	11.32
2	CFLD on Oilseeds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	TSP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	ASCI	-	-	-	-	-	-	-	-	-	-	2.94	2.54	1.41	1.81	3.06	2.87	7.41	7.22
5	UNICEF Funded	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	NFDB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.36	0.36	0.36	0.36
	Total	-	-	-	-	**2.40**	**2.40**	**1.50**	**1.28**	**1.50**	**1.48**	**5.94**	**5.31**	**2.26**	**3.54**	7.02	4.89	20.52	18.9

D. Contribution of host institute:

S.No.	Name of the project/activity	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
1	Land development	-	-	11.28	0.96	7.96	0.74	-	2.28	29.86
2	Farm pond	-	-	0.87	-	3.33	4.21	35.12	7.60	51.13
3	Road development	-	-	-	9.07	1.60	-	-	-	10.67
4	Silage unit	-	-	-	-	1.00	-	-	-	1.00
5	Shed net & Poly house	-	-	-	-	12.98	-	-	-	-
6	Well	-	-	-	2.58	-	-	-	-	2.58
	Total	**-**	**-**	**12.15**	**12.61**	**26.87**	**4.95**	**35.12**	**9.88**	**95.24**

E. Status of Revolving Fund

S.No.	Particulars	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
1	Opening balance as on 1st April	-	1.00	0.45	0.95	1.19	0.69	1.34	2.91	**7.58**
2	Income during the year	-	-	0.96	0.94	1.99	3.81	7.15	7.62	**21.53**
3	Expenditure during the year	-	0.55	0.47	0.70	1.49	3.15	5.58	1.86	**13.01**
4	Amount refunded to ICAR	-	-	-	-	1.00	-	-	-	**1.00**
5	Closing balance as on 31st March	-	0.45	0.95	1.19	0.69	1.34	2.91	8.67	**15.01**

12. Status of Infrastructural facilities available at KVK

A. Created with ICAR funds

Items	Details
Land	-
Office Buildings	Rs. 59.37 lakh for 550 sq mt Plinth area Constructed– 675 sq.mt
Farmers' Hostel	Rs. 41.06 lakh for 305 sq mt Plinth area Constructed– 675 sq.mt
Staff quarters	Nil
Vehicle	Rs.6,50,000/-
Tractor	Rs. 7,50,000/-
e-connectivity	Rs.15,000/-
Demo units	Rs.9,20,000/- (Goat & poultry unit)
Laboratories	-
Threshing Floor	-
Fencing	-
ATIC	Rs. 5,00,000/-

B. Created with funds other than ICAR

Name of the infrastructure	Year	Name of the funding agency	Amount received(Rs.)
Farmer Training	2015-16	ATMA	73,799
Women Training	2015-16	Mahila Aarthik Vikas Mahamandal	8,250
Women Training	2015-16	Mahila Aarthik Vikas Mahamandal	6,250
Sericulture training	2016-17	Dist. Sericulture Dept.	95,550
Women study tour, Soya Machine, Implement	2016-17	ATMA	1,19,125
Inter State farmer Training, Azolla unit	2017-18	ATMA	2,67,500
Farm Women training	2018-19	ATMA	18,750
Innovative Technology Date Palm Cultivation	2018-19	ATMA	1,00,000
Demonstration on Poultry, Silage and Vermicompost	2018-19	ATMA	1,60,000

13. Utilization of Hostel Facilities

Year of construction: 2013-14 No. of beds: 50

Year	No. of trainees stayed	Trainee days (days stayed)	Reason for shortfall if any
2011-12	-	-	-
2012-13	-	-	-
2013-14	-	-	-
2014-15	38	05	-
	50	03	-
	38	06	-

	50	03	-
	33	03	-
	06	03	-
	19	03	-
	34	03	-
	12	05	-
	11	01	-
	05	03	-
2015-16	14	01	-
	24	6	-
2016-17	14	30	-
	22	01	-
2017-18	50	01	-
	04	01	-
	15	05	-
	15	03	-
2018-19	02	01	-

14. Utilization of Staff Quarters – Not Applicable

15. Status of land utilization at KVK

S. No.	Item	Area (ha)
1	Under buildings	0.90
2	Under demonstration units	2.17
3	Under crops	8.00
4	Under horticulture	2.00
5	Others, if any	8.12
	Total	**21.19**

16. Details of SAC meetings conducted during last eight years

Year	No. of meetings	Date/s of meeting	No. of members attended
2011-12	-	-	-
2012-13	-	-	-
2013-14	01	25/11/2013	14
2014-15	01	04/02/2015	16
2015-16	01	17/03/2016	20
2016-17	01	22/03/2017	16
2017-18	01	13/09/2017	22
2018-19	01	14/06/2018	24

17. Details of KVK jurisdiction and its profile:

Particulars	**Details**
Total No. of blocks in the district and their names	09 Blocks (Gangapur, Vaijapur, Kannad, Khultabad, Sillod, Soygaon, Paithan, Aurangabad, Fulambri)
No. of blocks under KVK's jurisdiction and their names	04 Blocks (Gangapur, Vaijapur, Kannad, Khultabad)
Names of adjoining districts / blocks	Jalgaon, Bhuldhana, Jalana, Beed, Ahmadnagar, Nashik
Climate details and agro climatic zones	

Sr. No.	**Agro-climatic Zone**	**Characteristics**	**Tahasils covered**
1.	Western Maharashtra dry zone	Rainfall ranges from 700-900mm. Soils are medium black calcareous.	Vaijapur, Gangapur & Paithan
2.	Central Maharashtra plateau zone	Low rainfall , medium to heavy soils non CADA area	Aurangabad, Kannad, Khultabad, Phulambri, Sillod & Soygaon
Sr. No.	**Agro ecological situation**	**Characteristics**	**Tahsils covered**
1.	Scarcity zone	Low rainfall & light to medium soils.	Western part of Vaijapur,Paithan & Gangapur
2.	Central Maharashtra plateau zone-1	Low rainfall & medium to heavy soils non CADA area.	Some part of Gangapur, Paithan,vaijapur and Aurangabad Tahasils
3.	CMP-II	Assured rainfall & medium to heavy soils.	Part of Phulambri, Sillod and Khultabad tahasils
4.	CMP-III	Assured rainfall & hill a terrain	Some part of, Kannad Khultabad , Sillod and Soygaon tahasils
5.	CMP-IV	Command area & heavy soils.	Some part of Gangapur & Paithan tahasils

2	**Major farming systems /enterprises**	Agriculture
		Horticulture
		Agriculture + Horticulture
		Agriculture + Dairy
		Agriculture + Animal Husbandry
		Agriculture +Sericulture + Horticulture + Animal Husbandry
		Agriculture + Animal Husbandry + Backyard poultry

3	**Soil types**		
	Soil type	**Characteristics**	**Area in ha**
	Shallow soils	Depth 22.5 cm particle size 0.02 mm Net drained soils low water holding capacity	46.0 %

	Medium black soils	Depth 22.5 to 45 cm. Medium water holding capacity particle size 0.002 mm	19.0 %
	Deep black soils	Depth 60-90 cm high swelling & shrinkage property poor drainage. High water holding capacity. Particle size 0.002 mm.	35.0 %
4	**Major crops**	**Crop**	**Area (ha)**
		Cotton	38000
		Maize	177311
		Pigeon-pea	29857
		Pearl millet	30808
		Green gram	14821
		Black gram	5771
		Soybean	12221
		Rabi sorghum	45854
		Wheat	52373
		Bengal gram	60294
		Linseed	0.02
		Sugarcane	146.44
5	**Major livestock**	**Cattle**	
		Crossbred	48621
		Indigenous	479915
		Buffalo	98849
		Goat	354309

6	**Major thrust areas**	**Crop/Enterprise**	**Thrust area**
		Cotton	INM, Plant population, IPM
		Redgram	INM, Varietal evaluation, IPM
		Maize	Soil test based NPK management
		Wheat	Soil test based NPK management, Varietal evaluation
		Rabi Sorghum	Varietal evaluation
		Bengalgram	INM, IPDM
		Sugarcane	Organic matter decomposition, IPDM
		Onion	Seed Production, IPDM
		Ginger	IPDM
		Sweet Orange	IPDM
		Pomegranate	Bahar Management, Nutrient Management, IPDM
		Live Stock enterprise	Increase in area under fodder crop and productivity of livestock. Feed cost reduction through exploiting nutrient efficient local resources. Self-employment generation through income generating activity. To increase productivity and to reduce

			metabolic diseases through proper feeding and balanced diet. Corrective measures for various common ailments in livestock. Better profitability through market driven production.
		Health & Nutrition	To improve the knowledge of farm women regarding balanced nutrition
		Drudgery & time consuming activity	To demonstrate drudgery reducing technologies for farm and home activities.
		Marketing problem of SHG products	To impart improved agricultural technologies to women.
		Economic empowerment	To provide Trainings on agri-based entrepreneurship
		Health & Nutrition	To improve the knowledge of farm women regarding balanced nutrition

18. Major Activities Undertaken during last eight years

a. Year wise activities undertaken

Year	List activities undertaken
2011-12	Land development
2012-13	Land development
2013-14	Land development ,Technology Mohotsav
2014-15	Land development ,Skill training sponsored by MACP, Israel Scientist visit to adopted village, Field day
2015-16	Land development ,Skill training sponsored by MAVIM for farm women, Celebration of ay Jay Kisan Jay Vigyan week, farmers mela in Adarsh Sansad gram, Farmer's meet on Drought mitigation, Participated Soil health campaign,
2016-17	Sericulture beneficiaries empowerment programme, ASCI Skill training, Started KVM activity, Celebration of Jay Kisan Jay Vigyan week, Swachha Bharat Abhiyaan, Mega plantation of 10,000
2017-18	ASCI Skill training, Mahila Kisan diwas, Unnat Sheti Samrudh Sheti Abhiyaan, Swachha Bharat Abhiyaan
2018-19	CITA Sanwad, Technology Mohotsav , ASCI Skill training, Swachha Bharat Abhiyaan, , Field day

b. Details of targets and achievements

Name of activity	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19		Total	
	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A
OFT																		
(i)No. of technologies	-	-	-	-	06	05	12	10	15	10	18	12	13	12	12	12	76	61
(ii) No. of farmers	-	-	-	-	50	40	136	76	170	113	244	129	141	132	134	134	875	624
FLD																		
(i)No. of technologies	-	-	-	-	09	07	20	15	18	10	23	14	14	11	12	10	96	67
(ii) No. of farmers	-	-	-	-	72	135	218	156	190	138	291	218	189	240	168	173	1128	1060
TRAINING																		
(i)No. of courses	-	-	-	-	33	25	36	33	73	53	59	57	50	57	58	71	309	296
(ii) No. of participants	-	-	-	-	715	511	840	747	1690	1358	1450	1555	1100	1160	980	1503	6775	6834
EXTENSION ACTIVITIES																		
(i)No. of programmes	-	-	-	-	66	47	95	71	129	78	126	77	227	92	200	140	843	505
(ii) No. of participants	-	-	-	-	1733	1121	1261	623	1599	2015	1501	2567	1889	4015	1500	6113	9483	16454
Seed production	-	-	-	-	-	-	-	-	-	-	-	-	-	--	-	-	-	-
Planting material production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Live stock strains production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bio products production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

19. SWOT (Strengths, Weakness, Opportunities and threats) Analysis of KVKs

STRENGTH	Well equipped infrastructure,
	Developed excellent instructional farm covering with micro irrigation, soil conservation, water harvesting and storage structure.
	Demonstration unit(Nursery, Poultry, Goat, Sericulture, Vermicompost)
	Strong support from host organization
	Linkages with various line department(State agriculture department, ATMA, District Sericulture department, MAVIM)
	Leading activity on Sericulture enterprise
WEAKNESS	Maximum area of jurisdiction comes under scarcity zone,
	Less rainfall, Water scarcity, dependency on stored rain water
	Lack of response with SHG in operational area
	Cost of production is high due to poor efficiency of labour
OPPORTUNITY	Scope for water harvesting and storage
	Prioritize the area for water needs
	Coordination with line department to cover all user needs/ high felt needs of farmers
	Initiative for forming FPO/FPC/FC/FIG/SHG (farmers/ farm women's /rural youths)
	Skill trainings for various enterprises for income generation/self employment
	Scaling up of products (Nursery, Biofertilizers, Biopesticides)
	Revenue generation from demonstration units (Economical viable units)
	Capacity building for KVK staff
	Scope for promoting dry land horticulture like Custard Apple, Tamarind, Ber
THREATS	Occurrence of long dry spell every year
	Shortage of fodder- increasing cost for feeding.
	Demand from farmers on supply of free inputs
	Cost recovery of products manufactured
	Poor quality of agro inputs availability in market
	Frequent power drop

20. Brief account of progress made towards modernization of office, equipments, staff amenities, Transport, O& M reforms etc.

Sr. No.	Particulars	Source of Fund	Year	Qty
	Building & Construction	ICAR	2012-13	-
1	Administrative building	ICAR	2012-13	-
2	Farmers hostel	ICAR	2014-15	-
3	Farm Pond Construction	Host Institute	2013-14	03
4	Road of Water	Host Institute	2014-15	-
5	Approach Road	Host Institute	214-15	-
6	Open Well	Host Institute	2013-14	01
7	Water Supply line	Host Institute	2013-14	-
8	Farm internal roads & Electrification	Host Institute	2013-14	-
9	Mahindra Jeep (Bolero)	ICAR	2011-12	01
10	Tractor John deer	ICAR	2012-13	01

11	**Farm implement**			
	Rotavator	Host Institute	2014-15	01
	Plough	Host Institute	2014-15	01
	Cultivator	Host Institute	2014-15	01
	Shredder	Host Institute	2014-15	01
	Ridger	Host Institute	2014-15	01
	Trolley	Host Institute	2014-15	01
	Tractor drawn sprayer	Host Institute	2014-15	01
12	**Office Equipment**			
	Air Conditioner	ICAR	2014-15	04
	Cupboard Small	ICAR	2014-15	08
	Cupboard Big	ICAR	2014-15	04
	Wooden Cupboard	ICAR	2014-15	02
	Computer	ICAR	2013	03
13	**Furniture**			
	Main Table	ICAR	2011-12	01
	Side Table	ICAR	2011-12	01
	Storage rack	ICAR	2011-12	01
	High Back Chair	ICAR	2011-12	01
	Low Back Chair	ICAR	2011-12	06
	Flexi Rack	ICAR	2011-12	01
	Xerox Machine Table	ICAR	2011-12	01
	Computer Table	ICAR	2011-12	03
	Xerox Machine	ICAR	2011-12	01
	Computer	ICAR	2011-12	03
	Lenova Laptop	ICAR	2016-17	01
	Lenova Computer	ICAR	2016-17	01
	Laser printer	ICAR	2016-17	01
	Camera	ICAR	2016-17	01
	TV 50”	ICAR	2016-17	01
	Bajaj Mixer	ICAR	2017-18	01
	UV TV 32”	ICAR	2017-18	01
	Luminous Inverter	ICAR	2017-18	01
	Bakeri Oven	ICAR	2018-19	01
	Printer Color	ICAR	2017-18	01
	HP Printer	ICAR	2011-12	01
	Hp Laser Jet Printer Scannner	ICAR	2011-12	01
	Sony Handy Cam Camera	ICAR	2011-12	01
	Sony Cyber Shot	ICAR	2011-12	01
	Epson Projector	ICAR	2011-12	01
	Ahuja PA systems	ICAR	2011-12	01
	Projector Screen	ICAR	2011-12	01
	Laser Jet Printer	ICAR	2011-12	01

14	**Lab Equipment**			
	Fruit Grader	PDKV Akola	2016-17	01
	Mini dal Mill	PDKV Akola	2016-17	01
	Pusa Digital Kit	ICAR	2015-16	01
	Soil Testing Kit	ICAR	2016-17	02
	Hot Oven	Host Institute	2015-16	01
	Hot Plate	Host Institute	2015-16	01
	Student Microscope	Host Institute	2015-16	01
	Hot Metal Pad	Host Institute	2015-16	01
	Pan Balance	Host Institute	2015-16	01

21. Efforts and achievements made in the last eight years towards up gradation of knowledge and skills of staff of KVK i.e. Human Resource Development at different institutes/SAUs

Sr. No.	Name of the staff	Designation	Training/workshop attended	Name of Organization	Duration (Days)
1	All staff of MGM KVK	-	KVK Hub meeting	MGM KVK, Gandheli, Aurangabad	02
2	Mrs V.D.Deshmukh	SMS (Home Science)	Post harvest management & Value addition of Fruits	MPKV, Rahuri & ZPD, Hyderabad	03
3	Mr. K.A.Sukase	SMS (Agronomy)	HRD training on PHT & Value Addition	V.N.M.K.V.,Parbhani & ZPD, Hyderabad	02
4	Mr. B.R. Bhosle	Farm Manager	Hi-tech Floriculture	V.N.M.K.V.,Parbhani & ZPD, Hyderabad	02
5	Mr. D.K. Jadhav	SMS (Horticulture)	Communication Skills for Community Radio Development	KVK, Babhaleshwar (MANAGE)	04
6	Mr. T.B. Chavan	SMS (Plant Protection)	Recent Trends in Pest Management	ATARI V	04
7	Mr. K.A.Sukase	SMS (Agronomy)	Training Programme for Nodal Officers (SMS & Heads of identified KVKs of Southan states)	ASCI, ATARI, Hyderabad and Pantnagar	03
8	Mr. T.B. Chavan	SMS (Plant Protection)	Training Programme for Nodal Officers (SMS & Heads of identified KVKs of Southan states)	ASCI, ATARI, Hyderabad and Bangalore	03
9	Mr. T.B. Chavan	SMS (Plant Protection)	Agriculture Allied Business : Sericulture	DEE, V.N.M.K.V., Parbhani	01
10	Mr. T.B. Chavan	SMS (Plant Protection)	International Seminar on Global Climate Change : Implications for Agriculture and allied Sectors14-16 th December 2017.	VNMKV, DR.PDKV, Dr.BSKKV, MPKV, WALMI and JART Pune.	03
11	Mr. T.B. Chavan	SMS (Plant	IPM for Kharif crops	ICAR ATARI PUNE	02

		Protection)	with special focus on Pink Bollworm In cotton 30-31st August 2018.	& KVK Washim	
12	Mr. T.B. Chavan	SMS (Plant Protection)	Training of Trainers for Skill Developmrnt 25-27th September 2018.	ASCI , AAU and ATARI Pune.	03
13	Mr. K.A. Sukase	SMS (Agronomy)	Training of Trainers for Skill Developmrnt 25-27th September 2018	ASCI , AAU and ATARI Pune.	03
14	Mr. T.B. Chavan	SMS (Plant Protection)	Mechanization in sericulture , chalky rearing, rearing shade infection and demonstration programme 11-12th December 2018.	VNMKV Parbhani.	02
15	Mr. D.K. Jadhav	SMS (Horticulture)	HRD workshop on Horticulture	IIHR & ATARI, Bengalore	03
16	Mr. D.K. Jadhav	SMS (Horticulture)	Training Programme for Nodal Officers (SMS & Heads of identified KVKs of Southan states)	ASCI, ATARI, Hyderabad and Bangalore	03
17	Mr. D.K. Jadhav	SMS (Horticulture)	Workshop on Review of soil Sample analysis and SHC	KVK, Kosbad & ATARI, Hyderabad	01
18	Mrs. V.D.Deshmukh	SMS (Home Science)	Three days state level workshop of Home scientist	V.N.M.K.V.,Parbhani & ATARI, Hyderabad	03
19	Mrs. V.D.Deshmukh	SMS (Home Science)	Training on Soya processing	CIAE, Bhopal & ATARI, Hyderabad	05
20	Mrs. V.D.Deshmukh	SMS (Home Science)	Training on Faculty Development Programme (FDP) for KVK Officials on Promotion of Agro enterprises and Food Processing	Ni-msme, Hyderabad & ATARI, Hyderabad	03
21	Mrs. V.D.Deshmukh	SMS (Home Science)	Value addition of degradable cacoons	KVK Kharpudi & ARATI, Pune	03
22	Mr. A. D. Kadam	Programme Assistance (Computer)	ICT application & Use of M-Kisan portal in Agriculture and allied field	Extension Education institute, Ananad	05
23	Mr. A. D. Kadam	Programme Assistance (Computer)	Writing Skill for printing and electronic media	Extension Education institute, Ananad	05
24	Mr. A. D. Kadam	Programme Assistance (Computer)	Video production technique	Extension Education institute, Ananad	05

25	Mr. S.S. Wagh	SMS (Soil Science)	Conservation Farming & Zero tillage technology	State Agriculture Department & PoCRA	02
26	Mr. S.S. Wagh	SMS (Soil Science)	Farmers field school methodology	State Agriculture Department, NIPHM, Hyderabad & PoCRA	05

22. Give a brief account of technical back-up to the KVK received from ICAR Institutes/SAUs in

- Planning, execution, monitoring and evaluation of the programs.
- Technology inventory from SAU.
- Pre action plan meeting at concern department conducted by SAU.
- Action plan meeting conducted by SAU.
- Technical backup for control of Pink bollworm and Fall armyworm through training of SMS.
- Support for training program as a resource person.
- Availability of planting material for fruit mother block.
- Availability of improved verities of vegetable, flowers and fodder crop.
- Monitoring visit of Additional Director General, Dy. Director General from ICAR, Director of Extension Education of VNMKV and Director ATARI, Zone –VIII, Pune.

23. A Details of technology assessed/refined during the period under review

a) Agriculture, b) Horticulture, c) Livestock, d) Poultry, e) Fishery, f) Any other

S. No.	Discipline	Technology assessed / refined	Problem solved	Salient findings	Status of transfer and adoption
1	Agronomy	Effect of plant population on yield of BT Cotton	Farmers became aware about importance of plant population	There is increase plant population 4537/ha (spacing 4 X 1.5') as compare to plant spacing 4 X 2'. Yield increased was 2.85 q/ha.	Technology accepted by farmers and adoption is up to 40%
		Integrated nutrient management in Maize	Farmers learn about importance of micronutrient in maize	Due to use of micronutrient farmers got 51.1 q/ha yield. Whereas yield local check was 37.50 q/ha.	Technology accepted by farmers and adoption is up to 60%
		Varietal evaluation in Rabi Sorghum	Farmers use new high yielding verities	Due to use of high yielding verity Parbhani Moti farmers got 19.54 q/ha yield.	Technology accepted by farmers and adoption is up to 30%
		To study effect of pre and post emergence herbicides on yield of Cotton	Spraying of premergence herbicide keeps cotton crop weed free up to 21 days	Farmers saved 1 weeding costing Rs. 4000/ha	Technology accepted by farmers and adoption is up to 30%
		To assess the performance of Tembotrin 34.4 % SC for control of broadleaf and grassy weeds in Maize	Post emergence herbicide is effective to control weeds in Maize.	Tembotrin are effective to control grassy and broad leaf in Maize. Farmers saved 1 weeding costing Rs. 3750/ha.	Primary adoption 50 % and Secondary adoption 80%
2.	Plant Protection	Management of fruit sucking month in sweet orange.	To minimize the incidence of Fruit sucking moth in Sweet orange .	One light trap having insect filter used for 0.4 ha area	Technology accepted by farmers and adoption is up to 30%.

		Integrated pest and Disease Management in ginger.	To minimize the incidence rhizome rot in ginger.	To minimize the incidence rhizome rot in ginger seed (sets) treatment of M-45 and *Trichoderma*.	Technology accepted by farmers and adoption is up to 50%
		Integrated pest and Disease Management in pomegranate.	To minimize the incidence of Fruit sucking moth in Pomegranate.	One light trap having insect filter used for management of fruit sucking moth in Pomegranate.	Technology accepted by farmers and adoption is up to 20%
		Pest and Disease Management in Tomato	To minimize the incidence of fruit borar in tomato.	Use of Chlorantraniliprole 18.5% Sc and Pheromone traps along with lures.	Technology accepted by farmers and adoption is up to 25%
		Management of Chilli leaf curl virus.	To minimize the incidence of Leaf curl virus in chilli.	Use of Phipronil and sticky traps for management of sucking insect.	Technology accepted by farmers and adoption is up to 20%
		Effect of growth hormone (Serimore) on cocoon yield and quality	To increase the cocoon yield by using growth hormone.	To increase cocoon yield use of Serimore ampoule/50DFLs.	Technology accepted by farmers and adoption is up to 30%
3.	Soil Science	In-situ Sugarcane Trash Management	Farmers use Sugarcane trash to made organic matter instead of burning	Ratoon crop sustained well due to increase in organic matter and reduce weeding cost.	Technology accepted by farmers and adoption is up to 30%
		To study the effect of potassium application in Bengal gram in rain situation	Farmers learned about use of potasic fertilizer in pulses.	Due to use of K2O5 increase in yield was 20.12 % as compare to local check.	Technology accepted by farmers and adoption is up to 30%
		To Asses the yield of Cotton by Soil test based nutrient management with protective irrigation.	Farmers learned to use fertilizers on soil testing report	Farmers saved Rs.1881 /ha in fertilizers cost and increase yield 8.05 % costing Rs. 6496/ha.	Technology accepted by farmers and adoption is up to 60%
		To Asses the yield of Maize	Due to application of	Farmers saved Rs.	Technology accepted by

		through Soil test based application of nutrients	fertilizer on the basis of soil testing report problem of Zinc and Ferrous deficiency corrected	695/ha in fertilizers cost and increase yield 8.45 % costing Rs. 5400/ha.	farmers and adoption is up to 65%
4.	Horticulture	Effect of Nitrobenzene on flowering in pomegranate	Increasing number of female flower due to spraying of Nitrobenzene in Pomegranate	Increase in yield was 20% as compare to local check	Technology accepted by farmers and adoption is up to 60%
		Varietal evolution in Tomato	Farmers got new high yielding and TLCV, resistant variety *i.e* Arka Rakshak.	Arka rakshak is found resistant to early blight & late blight as compare to private company hybrids	Technology accepted by farmers and adoption is up to 20%
		Effect NAA on fruit retention in Sweet lime.	Farmers learn how to control premature fruit drop	Yield observed NAA treated plot was 15 T/ha i.e. 25 % more as compare to local check	Technology accepted by farmers and adoption is up to 50%
5.	Animal Science	Use of broad spectrum de-wormer to overcome mortality in calves	Early mortality Emaciation Stunted growth	Broad Spectrum de-wormer like tab. Fentas plus 150 mg @1 tab /10 kg body weight is proved the best .all the animals have recovered from the worms and improved from their health and also gained the weight .de-wormer animals shown marked improvement in feed and water intake .no mortality found in any of the	Technology accepted by farmers and adoption is up to 10%

				case .	
		Use of long acting inj. enrofloxacin to cure pneumonia in kids.	Early mortality Emaciation	No mortality found in kids Improvement in health condition of kids as well as increase in weight gain	10% Adoption
		Use of clomephene citrate to induce heat in animals	Anoestrus	Animal showed regular heat or estrus cycle, increased conception rate	12% Adoption
		Use of long acting inj. enrofloxacin to cure enteritis in calves .	Early mortality Emaciation	No mortality was found in calves, Improvement in health condition of calves as well as increase in weight gain	10% Adoption
6.	Home Science	Soya poha laddu	It helps to increase weight & overcome on malnutrition	Assessed technology is more effective for increasing weight of preschool children	It was included in the midday meal twice in a day.
		Brinjal Mittens	Reduced health hazard	Assessed technology is more effective. It saves time up to 22%, increased work output 20% &reduces health hazards up to 75%.	Primary adoption 30% Secondary adoption 49%
		Twin wheel hoe	Reduced back pain, save labor and time	Average working heart rate 15% over traditional method.	Adopted 40% by small land holding farmers.
		Insect Probe Trap	Save grain from infestation	It is echo-friendly , save grains from infestation reduce losses	Adopted 20%
		Module for prevention of reproductive health problems	Aware about hygiene & reproductive health	65% girls aware to overcome on	Technology adopted by 65%

			problems	reproductive problems and how to take care of their health and maintain the hygiene.	
		Fertilizer bag (Sulbha bag)	Less contact with fertilizer and reduce back pain	Demo technology is reduces drudgery by 28.57 % than check	30% adoption in farm women
		Sapling transplanter	Decreased discomfort	Increased efficiency by 63.63 % over traditional method	Adopted 40%
		Super grain bag	Saved grain from fungal infection	Demo technology is 89% more effective than check.	Adoption 80%

23. B) Enlist most accepted technologies assessed during the period under review

S. No.	Name of the technology	Extent of adoption	Reasons for adoption
1.	INM in Maize	60% adoption	Due to INM increase in yield.
2.	To assess the performance of Tembotrin 34.4 % SC for control of broadleaf and grassy weeds in Maize	Primary adoption 50 % and Secondary adoption 80%	Control observed against grassy broad leaves weeds
3	To minimize the incidence of Rhizome rot in Ginger	Adoption is up to 50%	Due to use of bio agents incidence of Rhizome rot reduce up to 40%
4	Super grain bag	80 % women adopted	It's easy way to keep grain from infestation
5	Brinjal mittens	Primary adoption 30% Secondary adoption 49%	Save from injuries
6.	Twin wheel hoe	Adopted 40% by small land holding farmers.	It is easy to operate & save time & labour

24. Details of Front Line Demonstrations conducted during the period under review

A) Front-line demonstration in *Kharif* season (Including CFLDs on Oilseeds and Pulses)

Condition: Rainfed/Irrigated

Year wise	Crops	No. of farmer	Area (ha)	Avg. yield (q/ha)	Local check			Improved Variety			Increase		Net loss (Rs.)	Effective gain (Rs.)
					Av. Yield	C (Rs.)	R (Rs.)	Variety	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
II (2012-13)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III (2013-14)	**Red-gram**	15	06	8.45	7.00	7965	24500	BDN-708	8225	29527	530	5027	-	4497
		40	16	8.60	7.00	7965	24500	BDN-711	8225	34400	530	9900	-	9370
	Soy-bean	05	02	10.50	30	4000	30000	MAUS-154	2329	42000	771	12000	-	11229
		05	02	11.50	30	4000	30000	MAUS-51	2329	46000	771	16000	-	15229
	Cotton	25	10	14.90	12.00	41817	60000	Bt cotton	44580	74500	2763	14500	-	11737
IV (2014-15)	**Red gram**	21	06	9.50	5.50	19800	26250	BDN-711	22692	45920	2892	19670	-	16778
		20	06	8.0	5.50	19800	26250	BSMR-853	22692	38669	2892	12419	-	9527
	Cotton	06	2.4	11.50	10.30	33460	36050	-	34500	40250	1040	4200	-	3160
V (2015-16)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VI (2016-17)	**Red gram**	12	4.8	13.00	13	13750	49400	-	12500	68400	1250	19000	-	21050
	Cotton	12	4.8	22	18.00	19500	99000	-	16250	121000	3250	22000	-	25250
VII (2017-18)	**Red gram**	44	17.60	13.48	9.50	20500	38000	BSMR-853 ®	12500	53920	2000	15920	-	13920
		06	2.4	17.70	12.00	22500	48000	BSMR-853 (P)	27500	70800	5000	22800	-	17800
		12	4.8	14.50	10.10	22000	45450	-	22700	68900	700	23450	-	22750
VIII (2018-19)	**Red gram**	12	4.8	8.75	6.25	10000	31250	-	11242	43750	1242	12500	-	11258
	Cotton + Green gram	12	4.8	7.21	6.07	31000	33385	Bt cotton + Utkarsha	32250	39635	1250	6270	-	5020
	Red gram	32	12.80	3.56	2.13	7000	10117	BDN-711	7500	16910	500	6993	-	6293

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

B) Front-line demonstration in *Rabi/Summer* season (Including CFLDs on Oilseeds and Pulses)

Condition: Rainfed

Year wise	Crops	No. of farmer	Area (ha)	Avg. yield (q/ha)	Local check			Improved Variety			Increase		Net loss (Rs.)	Effective gain (Rs.)
					Av. Yield	C (Rs.)	R (Rs.)	Variety	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
II (2012-13)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III (2013-14)	**Chick pea**	30	8.10	12.70	10	8419	32000	Vijay	9125	40640	706	8640	-	7934
		15	8.90	13.36	10	8419	32000	Digvijay	9125	42750	706	10740	-	10034
		10	04	12.90	10	8522	32000	Digvijay (P)	9125	41280	703	9280	-	8777
IV (2014-15)	**Chick pea**	22	06	13.12	7.50	9300	26250	Vijay	12000	45920	2700	19670	-	16970
		13	06	14.50	7.50	9300	26250	Digvijay	12000	50750	2700	24500	-	21800
		03	1.2	12.95	10.60	28325	40280		32812	49210	4487	8930	-	4443
V (2015-16)	**Chick pea**	45	20	10.55	6.25	19620	26076	JAki-9218	22200	43253	2580	17179	-	14599
		07	2.8	13.05	11.08	17800	55428		20628	65285	2828	9857	-	7029
VI (2016-17)	**Chickpea**	13	12	14.75	11.08	17800	44320	Digvijay	23000	59000	5200	14680	-	9480
		35	08	1405	11.08	17800	44320	Jaki-9218	23000	56000	5200	11680	-	6480
VII (2017-18)	Chick pea	70	14	10.33	7.50	22300	27000	Akash ®	26300	45452	4000	18452	-	14452
		22	06	15.25	12.00	24500	43200	Akash (P)	29000	63000	4500	19800	-	15300
		10	04	12.67	11.25	21500	41440	-	23505	46879	2005	5439	-	3434
		12	4.8	21.4	15.5	25000	62000	-	29000	85600	4000	23600	-	19600
VIII (2018-19)	Chick pea	60	20	5.5	37.5	10500	15000	Akash	11000	22000	500	7000	-	6500
	Wheat	10	04	24.3	21.80	18018	47960	-	17567	52140	452	4180	-	4634

C= Cost (Rs./ha); R= Return (Rs./ha); ® = Rainfed; (P) = Protective irrigation ; Results of front-line demonstrations (q/ha) are indicated year-wise.

C) Front-line demonstration on horticultural crops including fruits, vegetables and flowers

Year wise	Crops	No. of farmer	Area (ha)	Avg. yield (q/ha)	Local check			Improved Variety			Increase		Net loss (Rs.)	Effective gain (Rs.)
					Av. Yield	C (Rs.)	R (Rs.)	Variety	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
II (2012-13)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III (2013-14)	Sweet orange	10	04	162.5	146.5	2250	17592		2250	21125	0	3533	-	3533
IV (2014-15)	Sweet orange	09	3.6	9.0 tone	6.00 tone	65850	21000	-	70100	31500	4250	10500	-	100750
	Drumstick	10	2.00	200	156.7	58000	1018355	-	61930	130000	3930	28145	-	24215
V (2015-16)	Onion	12	4.8	486.6	138.6	19500	344915	-	200000	388915	5000	4400	-	39000
	Tomato	12	4.8	182	155	362500	757291	-	375000	920832	13000	163541	-	150541
	Onion	12	4.8	326	290	77000	261000	-	82500	293000	5500	22000	-	16500
	Okra	10	2.0	130	120	41550	96000	-	43300	104000	1750	8000	-	6250
	Garlic	10	0.20	38.23	30	75750	240000	-	95750	286725	20000	46725	-	26725
VI (2016-17)	Wal	12	2.4	15.15	11.07	19.100	44240	-	18850	60.600	250	16360	-	16610
	Tomato	12	4.8	502	457	125000	457000	-	112500	502000	12500	45000	-	57500
	Onion	12	4.8	12	10	42500	80000	-	37500	108000	5000	28000	-	33000
	Onion	12	4.8	248.4	146.0	78650	116800	-	83200	198720	4550	81920	-	77370
	Garlic	06	0.3	80.6	61.7	68200	215950	-	76800	282100	8600	66150	-	57550
	Marigold	12	0.6	146.2	109.9	67350	109900	-	71300	146200	3950	36300	-	32350
VII (2017-18)	Onion	10	04	132.75	125	41810	87500	-	41575	92925	235	5425	-	5660
		12	4.8	12.5	10.3	58000	82400	-	60000	108000	2000	25600	-	23600
	Cotton	12	4.8	20.2	18.10	39000	99550	-	40000	111100	1000	11550	-	10550
VIII (2018-19)	Onion	10	04	135.4	127	41810	87500	-	41575	108320	235	21320	-	21555
		12	4.8	13.75	8.75	27000	36750	-	30000	57750	3000	21000	-	240000

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

D) Front-line demonstration on Livestock and Fisheries

Year wise	Animal/ bird	Breed	No. of Raisers	Total no of animals/ birds	Avg. Prodn.	Local check			Improved breed / tech.		Increase		Net loss (Rs.)	Effct. Gain (Rs)
						Av. Prod.	C	R	C	R	C	R		
I (2011-12)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
II (2012-13)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III (2013-14)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IV (2014-15)	Cattle	ND	10	20	4.0	2.5	66	100	71	160	05	60	-	55
	Goat	Osman abadi	10	20	-	-	2000	-	-	400	-1600	-	-	1600
	Cattle	ND	10	20	-	-	3000	-	-	644	-2356	-	-	2356
	Buffalo	ND	10	20	-	-	2800	-	-	644	-2156	-	-	2156
V (2015-16)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VI (2016-17)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VII (2017-18)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VIII (2018-19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

E) Front-line demonstration on other enterprises -

Year wise	Enter prise	Technology demonstrated	No. of farmer	No. of units	Major parameters		Economics of demonstration		Increase		Net loss (Rs.)	Effective gain (Rs.)
					Demo.	Local check	C (Rs.)	R (Rs.)	C (Rs.)	R (Rs.)		
I (2011-12)	-	-	-	-	-	-	-	-	-	-	-	-
II (2012-13)	-	-	-	-	-	-	-	-	-	-	-	-
III (2013-14)	-	-	-	-	-	-	-	-	-	-	-	-
IV (2014-15)	-	-	-	-	-	-	-	-	-	-	-	-
V (2015-16)	-	-	-	-	-	-	-	-	-	-	-	-
VI (2016-17)	-	-	-	-	-	-	-	-	-	-	-	-
VII (2017-18)	-	-	-	-	-	-	-	-	-	-	-	-
VIII (2018-19)	-	-	-	-	-	-	-	-	-	-	-	-

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

F) Front-line demonstration on women empowerment

Year wise	Category	Name of technology	No. of demonstrations	Name of observations	Results		Economics of demonstration	
					Demo.	Local check	C (Rs.)	R (Rs.)
I (2011-12)	-	-	-	-	-	-	-	-
II (2012-13)	-	-	-	-	-	-	-	-
III (2013-14)	Health & Nutrition	Supply of Iron rich Chiwada to Anemic adolscent girls	10	HB level (mg)	9.5	8.5	-	-
IV (2014-15)	Income generation	Tetra vermin bed	10	1.Production cost per bed 2. Yield/bed/annum	4000/bed 2.4t/annum	6000/bed 2.0/annum	11,000/-	15000/-
	Drudgery reduction	Sac holder	10	1.Time 2.labour save / cost saving	10 min 1 labour	15 min 3 labour	150/day	300/day
	Health & Nutrition	Kitchen garden	10	Days of Consumption Quantity	5 310 gm	3 140 gm	-	-
	Health & Nutrition	Weaning food	10	Acceptances	55 %	-	-	-
V (2015-16)	Income generation	Tetra vermin bed	10	1.Production cost per bed 2. Yield/bed/annum	4000/bed 3.6t/annum	6000/bed 2.5/annum	14,000/-	24000/-
VI (2016-17)	Drudgery Reduction	Brinjal and Okra Mittens	10	1.Time required for harvesting 2.Finger injury	1.8 hr for harvesting 6 no.	2.6 hr for harvesting 19 no.	-	-
	Drudgery Reduction	Revolving stand & stool	10	1. Time requirement 2. Reduction in health hazards	3.5 hr It require less time and gives more comfort than local method	4.00 hr Women have to face more back pain and discomfort while milking	-	-
	Drudgery Reduction	Cotton picking coat	10	1. Average working HR (beats/min)	91	94	-	-

				2. Injuries 3. Average work output 4. Time consumption	8 no. 7 kg cotton per picking	14 no. 5.5 kg cotton per picking		
	Drudgery Reduction	Serrated Sickle	10	1.Average working HR (beats/min) 2.Overall body discomfort (as per 5 point scale) 3.Time consumption &Work output	82 04 0.010ha/day/labour	91 03 0.08ha/day/labour	-	-
VII (2017-18)	Drudgery Reduction	Brinjal and Okra Mittens	10	1.Time required for harvesting 2.Finger injury	1.5 hr for harvesting 4 no.	2.5 hr for harvesting 11 no.	-	-
	Drudgery Reduction	Revolving stand & stool	10	1. Time requirement 2. Reduction in health hazards	3.00 hr It require less time and gives more comfort than local method	3.5 hr Women have to face more back pain and discomfort while milking	-	-
	Post Harvest Management	Solar dryer	10	Time required for drying (Fenugreek leaves, Coriander leaves & Spinach)	6.3/hr	10.68/hr	-	-
VIII (2018-19)		Grain cleaner cum grader	10	Capacity (Kg/hr)	80	19	-	-
				Cleaning efficiency (%)	7.81	4.7	-	-
				Labour requirement (man-hr/qt)	2/day	8/day	-	-
				Operational cost (Rs./qt)	40(for 80 kg)	38(for 19 kg)	-	-
		Solar conduction dryer	10	Time taken for drying vegetable			-	-
				Fenugreek leaves (hr)	5.3	8	-	-

				Spinach	6	7.3	-	-
				Coriander leaves	5.3	7	-	-
				Drumstick leaves	5.3	7.45	-	-
				Onion	9.2	12.3	-	-
		Kitchen garden	10	Consumption of Vegetable in a month (gram)			-	-
				Days of consumption of vegetable in a month (Days)	20	15	-	-
				Monthly expenditure on purchase of vegetables in a month (Rs.)	155	895	-	-

C= Cost (Rs./ha); R= Return (Rs./ha); The results of front-line demonstrations (q/ha) are indicated year-wise.

G) Front-line demonstrations on Farm Implements and Machineries -NA

Name of the implement	crop	No. of farmers	Area (ha)	Performance parameters / Indicators	* Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	Local check		
2011-12	-	-	-	-	-	-	-	-
2012-13	-	-	-	-	-	-	-	-
2013-14	-	-	-	-	-	-	-	-
2014-15	-	-	-	-	-	-	-	-
2015-16	-	-	-	-	-	-	-	-
2016-17	-	-	-	-	-	-	-	-
2017-18	-	-	-	-	-	-	-	-
2018-19	-	-	-	-	-	-	-	-

25. DETAILS OF TRAINING PROGRAMMES CONDUCTED

I. Training programmes conducted for farmers/farm women (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)			VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL		
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P
1	Crop Production	-	-	-	-	-	-	15	15	306	19	19	430	27	20	438	27	26	436	29	33	439	36	39	753	153	152	2802
2	Horticulture	-	-	-	-	-	-	-	-	-	-	-	-	06	06	197	07	11	224	-	-	-	-	-	-	13	17	421
3	Livestock	-	-	-	-	-	-	-	-	-	-	-	-	07	06	121	-	-	-	-	-	-	-	-	-	07	06	121
4	Fisheries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Home Science	-	-	-	-	-	-	08	06	127	08	07	142	07	07	137	08	15	377	12	13	248	12	15	341	55	64	1372
6	Agril Engg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Agroforestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**-**	**-**	**-**	**-**	**-**	**-**	**23**	**21**	**433**	**27**	**26**	**572**	**47**	**39**	**893**	**42**	**52**	**1037**	**41**	**46**	**687**	**48**	**54**	**1094**	**228**	**2160**	**4174**

T=Target; C=Conducted; P=Participants

II. Training programme conducted vs targets fixed (discipline-wise) for extension functionaries (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)			VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL		
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P
1.	Crop Production	-	-	-	-	-	-	02	-	-	02	02	45	03	-	-	03	03	109	02	07	391	-	-	-	12	12	545
2.	Horticulture	-	-	-	-	-	-	-	-	-	-	-	-	01	-	-	-	-	-	-	-	-	-	-	-	01	-	-
3.	Livestock	-	-	-	-	-	-	-	-	-	-	-	-	01	01	34	-	-	-	-	-	-	-	-	-	01	01	34
4.	Fisheries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Home Science	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	01	19	01	01	19
6	Agril Engg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.	Agroforestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	**02**	**-**	**-**	**02**	**02**	**45**	**05**	**01**	**34**	**03**	**03**	**109**	**02**	**07**	**391**	01	01	19	15	14	598

T=Target; C=Conducted; P=Participants

III. Training programmes conducted for rural youths (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)			VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL		
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P
1.	Crop Production	-	-	-	-	-	-	04	04	78	05	05	100	25	19	149	06	02	409	-	-	-	05	02	68	45	32	804
2.	Horticulture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	03	-	-	04	04	82	-	-	-	07	04	82
3.	Livestock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Fisheries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Home Science	-	-	-	-	-	-	02	-	-	02	-	-	01	-	-	03	-	-	02	-	-	02	-	-	12	-	-
6	Agril Engg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.	Agroforestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	**06**	**04**	**78**	**07**	**05**	**100**	**26**	**19**	**149**	**09**	**02**	**409**	**06**	**04**	**82**	**02**	**-**	**68**	64	36	886

T=Target; C=Conducted; P=Participants

IV. Skill development training programmes conducted for entrepreneurship development (last 8 years)

S. N	Discipline	I (2011-12)			II (2012-13)			III (2013-14)			IV (2014-15)			V (2015-16)			VI (2016-17)			VII (2017-18)			VIII (2018-19)			TOTAL		
		T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P	T	C	P
1.	Crop Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	01	20	01	01	20	02	02	36	04	04	76
2.	Horticulture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	01	17	-	-	-	-	-	-	01	01	17
3.	Livestock	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Fisheries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.	Home Science	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Agril Engg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.	Agroforestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.	Others	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**02**	**02**	**40**	**02**	**20**	**40**	-	-	-	**05**	**05**	**93**

T=Target; C=Conducted; P=Participants

V. Impact of major Training program conducted (last 8 years)

Name of the specific technology / skill transferred	No. of participants	Adoption (%)	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
ICM in cotton	22	50	62230/ha	70000/ha
ICM in Red gram	39	50	14780/ha	24000/ha
Cotton + Green gram intercropping	10	100	57410/ha	64000/ha
Silage preparation	30	80	2700/t	6000/t
Sericulture	40	52	110000/ha	270300/ha
Goat Raring	115	58	7900	29200
Natural colors	70	20	10000	40000/year
Kitchen garden	53	57	-	4000/year
Poultry	22	54	-	14300 (1 batch of 50 birds)
Bakery	88	28	-	2100/month

26. Critical input supplied during the period under review:

a) Agri-inputs

Inputs	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
I)Seed – Crop-wise & \ variety-wise									
Pigeon-pea									
BDN- 708 (kg)	-	-	60	-	-	-	-	-	60
BDN – 711 (kg)	-	-	90	164	-	78	100	64	496
BSMR -853 (kg)	-	-	-	-	-	58	-	-	58
Chickpea									
Vijay (kg)	-	-	580	-	-	-	-	-	58
Digvijay (kg)	-	-	320	840	-	530	-	-	1690
Jaki -9218 (kg)	-	-	-	-	900	350	-	-	1250
Akash (kg)	-	-	-	-	-	-	1500	1500	3000
Rabi Sorghum									
Parbhani Moti (kg)	-	-	-	-	20	30	30	24	104
PKV kranti (kg)	-	-	-	-	-	30	30	24	84
Cotton (kg)	-	-	2.25	2.7	-	-	-	-	4.95
Soybean									
MAUS-154 (kg)	-	-	150	-	-	-	-	-	150
MAUS-81 (kg)	-	-	150	-	-	-	-	-	150
Maize									
LocalKG	-	-	-	-	2.25	-	-	-	2.25
Seasamum									
LocalKG	-	-	-	-	-	03	03	03	09
Sunflower									
LocalKG	-	-	-	-	-	03	03	03	09
Mustard									
LocalKG	-	-	-	-	-	03	03	03	09
ii) Biofertilizer									
Rhizobium (kg)	-	-	14	08	9	14	16	16	77
PSB (kg)	-	-	-	-	14	14	16	16	60
Trichoderma (kg)	-	-	11	23.5	-	-	-	-	34.5
Trichoderma (Lit)	-	-	-	36	48	48	-	-	132
Rhizo- PSB liquid (ml)	-	-	-	300	-	-	-	-	300
Azotabacter (kg)	-	-	-	-	05	-	-	-	05
iii) Any other									
DAP (kg)	-	-	1000	2520	-	-	-	-	1250
Sulpur (kg)	-	-	470	511	360	408	450	306	2505
Zinc sulphate (kg)	-	-	70	70	-	-	220	320	680
Magnesiunm Sulphate (kg)	-	-	35	35	-	-	-	-	70
MOP(kg)			150	400					550
Ferrous Sulphate (kg)	-	-	-	-	-	-	100	100	200

Borax (Kg)	-	-	-	-	-	-	03	03	06
19:19:19 (kg)	-	-	24	-	-	-	-	-	24
Michnel 32 (kg)	-	-	12	-	-	-	-	-	12
NSKE (Kg)	-	-	450	925	-	-	-	-	1375
Urea (Kg)	-	-	-	498	-	-	-	-	498
SSP (Kg)	-	-	-	100	-	-	-	-	100
Pendemethalin (lt)	-	-	-	20	-	05	05	-	30
Timbotorin (lt)	-	-	-	-	-	-	-	0.92	0.92
Quinolphos(lt)	-	-	-	-	45	-	-	-	45
Profex(lt)	-	-	-	-	45	-	-	-	45
Proclame(lt)	-	-	-	20	-	5	25	-	50
Carbendazim(kg)	-	-	1.25	1.25	-	0.5	2.5	3.2	8.7
Azadirictine(lt)	-	-	2.25	2.25	3	15	03	-	25.5
Chorantraniliprole(ml)	-	-	360	360	-	-	-	-	720
Pheromone traps	-	-	-	-	-	72	72	180	324
Lures	-	-	-	-	-	72	36	250	358
Phipronil(Lit)	-	-	-	-	3	3	-	-	06
Clothiniadin (gmd)	-	-	-	-	-	120	120	120	360
Sicky traps No.	-	-	-	-	-	192	192	96	480
Serimore Ampoules No.	-	-	-	-	-	-	12	12	24
HgCl2(Gms)	-	-	100	100	-	-	-	-	200
Nitrobenzene (lt)	-	-	-	05	06	06	-	-	18
NAA(lt)	-	-	-	-	-	-	03	-	03
M45(KG)	-	-	2.25	3	4.5	2.25	-	-	12
Light trap	-	-	09	18	24	12	-	-	63
Coocoon Harvestor No	-	-	-	-	-	-	-	01	01
Soya poha Laddu	-	-	10 preschooler for three month	-	-	-	-	-	-
Iron rich chiwada	-	-	10 adolescent girls for three month	-	-	-	-	-	-
Weaning food	-	-	10 infant for three month	-	-	-	-	-	-
Tetra Vermi bed	-	-	-	02	-	-	-	-	-
Insect prob trap	-	-	-	10		25	-	-	-
Brinjal Mitten	-	-	-	-	10	25	-	-	-
Revolving stand & stool	-	-	-	-	-	25	-	-	-

b) Horticulture-inputs

Inputs	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
i) Seed	-	-	-	-	-	-	-	10 (Kitchen garden kit)	-
Drumstick Bhagya Nagar	-	-	-	1000	-	-	-	-	-
Lablab Beans (Kg)	-	-	-	-	-	12	-	-	-
Garlic Phule Baswant (Kg)	-	-	-	25	-	25	-	-	-
ii) Saplings	-	-	300	300	300	800	800	300	-
Drum stick									
Tomato Ark Rakshk	-	-	-	-	-	14000	-	-	-
Marigold						6000			
iii) Root / tubers	-	-	-	-	-	-	-	-	-
iv) Any other	-	-	-	-	-	-	-	-	-

c) Livestock/ Poultry/ Fishery -inputs

Inputs	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
Type-wise									
Dairy									
De-wormer Tablet	-	-	-	50	50	-	-	-	-
Broad spectrum antibiotic	-	-	-	20	20	-	-	-	-
Heatali Capsule	-	-	-	10	10	-	-	-	-
Mineral mixture(Kg)	-	-	-	05	05	-	-	-	-
Vaccine PHT Number	-	-	-	20	-	-	-	-	-
Vaccine FMD Number	-	-	-	20	-	-	-	-	-

27. Soil Testing and Soil Health Cards Issued

Inputs	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
Soil Samples tested	-	-	-	-	252	-	380	226	**858**
Soil Health Card issued	-	-	-	-	252	-	380	226	**858**
No of Farmers benefitted	-	-	-	-	252	-	280	210	**742**

28. Linkage establishment with other Govt. Department/NGOs

S.No.	Name of the organization	Area of collaboration/ interaction
1.	VNMKV, Parbhani	Technology inventory, Action plan preparation, Human resource development and help for resource person
2.	MPKV, Rahuri	Fodder seed and Mother block fruit seedling
3.	BSKKV, Dapoli	Mother block fruit seedling
4.	FRS, Aurangabad	Supply Mother block fruit seedling
5.	Sweet orange research station, Badnapur	Supply of Sweet orange Mother block fruit seedling
6.	IIHR, Banglore	Vegetable varieties
7	State Department of Agriculture	For district profile and Weather data
8.	ATMA, Aurangabad	Financial help for establishing demonstration units on farmers field, Training program, Exposure visit, Innovative project, Technical guidance for establishing demonstration unit
9.	State department of sericulture	Training program, Technical backup, Establishment of sericulture unit.
10.	Department of Social Forestry	Supply of planting materials
11.	BIAF, Pune	Fodder seed and planting material
12.	KVK	Resource person

(Pl add row if required)

29. Activities carried out by using revolving fund (Rs. in lakh):

S.No.	Activity	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
1.	Purchase of vegetable seeds	-	-	7230	-	-	-	-	-	-
2.	Stationery	-	-	-	324	-	-	-	-	324
3.	Printing charges	-	-	-	-	2110	-	-	2920	3130
4.	Goat feed	-	-	-	-	-	17320	-	-	17320
5.	Maize	-	-	-	-	-	1030	-	-	1030
6.	Honorarium	-	-	-	-	-	27150	-	10000	37150

	Exp.									
7.	Purchase of equipment	-	-	-	-	-	50625	-	-	50625
8.	Diesel Exp.	-	-	-	-	-	-	4500	-	4500
9.	Poultry chicks	-	-	-	-	-	-	15693	-	15693
10.	Goat Medicine	-	-	-	-	-	-	1455	-	1455
11.	Poultry feeds	-	-	-	-	-	-	325850	11618	337468
12.	Travelling Exp.	-	-	-	-	-	-	28000	2600	30600
13.	Bakery oven	-	-	-	-	-	-	-	25000	25000
14.	Gas stove	-	-	-	-	-	-	-	5000	5000

30. Resource generation (Rs. in lakh):

S. No.	Activity	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
1.	Milk	-	-	4025	-	31000	-	-	-	35025
2.	Vegetable	-	-	53339	-	-	1200	24046	63305	141890
3.	Marigold	-	-	-	22702	-	12834	-	-	35536
4.	Groundnut	-	-	-	9020	-	-	-	-	9020
5.	Mulberry seedling	-	-	-	68	10760	13800	3000	-	27628
6.	Onion	-	-	-	2646	-	-	-	-	2646
7.	Cocoon	-	-	-	-	6000	-	4000	-	10000
8.	Goat	-	-	-	-	37214	-	50500	2730	90444
9.	Seed	-	-	-	-	24000	-	-	28665	52665
10.	Egg	-	-	-	-	-	5000	10991	59240	75231
11.	Poultry bird	-	-	-	-	-	21000	126200	82346	229546
12.	Seedlings	-	-	-	-	-	5400	-	-	5400
13.	Seminar hall rent	-	-	-	-	-	27000	2000	53700	82700
14.	Hostel rent	-	-	-	-	-	23000	-	-	23000
15.	Vegetable seed	-	-	-	-	-	-	169760	-	169760
16.	Water melon	-	-	-	-	-	-	-	9975	9975
17.	Tube rose	-	-	-	-	-	-	-	475	475
18.	Agro Tourism fees	-	-	-	-	-	-	-	200	200
19.	Sweet lime seedling	-	-	-	-	-	-	-	52100	52100
20.	Pomegranate seedling	-	-	-	-	-	-	-	35886	35886

31. Impact studies carried out during reporting period. Give brief account with copies of report

Technology Assessment

Technologies evolved by National Agricultural Research system are tested by MGM KVK for their location specificity by involving farmers as partners from adopted villages. During reporting period the total of 30 technologies were assessed by KVK. Most of the technologies are experimented on major crop of the district. Improved tools are also assessed for drudgery reduction of farm women. The status of transfer and adoption of assessed technology is mentioned in Serial No. 23 A.

Front Line Demonstrations

Front line demonstration activity is important activity of this KVK to show the production potential of improve technology to the farmers. KVK played important role to show case and promote latest varieties and other technologies through FLDs and CFLDs. During reporting period in total 55 FLDs are conducted including CFLDs.

Sr. no	Crop	Area (ha)	Number of Farmers	Number of Villages	Variety	Percent Adaptation
1.	Red gram	90	234	09	BDN 708, BSMR 853, BDN 711	45
2.	Bengal gram	96.4	356	09	Vijay, Digvijay, JAKI 9218, AKASH	35
3.	Cotton + Green gram inter cropping	4.80	24	01	Utkarsh	80

FLDs Under plant protection conducted are on use of disinfectant, companion crops, barrier crops, IPM in Cotton and mechanization in sericulture were conducted and impact is as follow.

Sr. No.	Crop	Area (ha.)	Number of farmers	Number of villages	Technology	Percent adoption
1.	Sweet orange	7.6	19	03	Use of disinfectant to control gummosis.	20
2.	Onion	14.4	36	05	Seed production use of companion crop (Seasamum, Mustard and Sunflower)	25
3.	Onion	4.8	12	02	Barrier crop Maize	10
4.	Cotton	14.4	36	02	Management of sucking insects	20
5.	Sericulture	4.8	12	02	Use of cocoon harvesting machine	33

Kitchen garden activity is also conducted under FLD to improve health and nutrition of farm women. Brinjal and okra mittens, milking revolving stand and stool, cotton picking coat, sac holder, grain cleaner and grader also used for drudgery reduction of farm women. Tetra vermin bed and solar dryer introduced through FLD as income generating activity. Impact of important activity is as under.

Sr. no	Crop/ Enterprise	Number of Farmers	Number of Villages	Percent Adaptation
1.	Kitchen garden	30	03	60
2.	Brinjal Mitten	30	02	49
3	Tetra vermin bed	10	02	40
4	Grain cleaner cum grader	10	01	60

32. Details of programmes implemented with convergence

S. No.	Name of the programme	Name of organization / Department	Implementing from the year	Amount realized (Rs. lakh)	No. villages and farmers benefited
1.	Training on protected farming	MACP. ATMA, Aurangabad	2014	73799	38
2.	Input Dealer training	MACP. ATMA, Aurangabad	2014		60
3.	Sericulture	MACP. ATMA, Aurangabad	2014		38
4.	Training on Maize processing	MACP. ATMA, Aurangabad	2014		50
5.	Training on Pomegranate processing	MACP. ATMA, Aurangabad	2014		33
6.	Training on safe storage of farm produce	MACP. ATMA, Aurangabad	2015		22
7.	Supply of agriculture produce to retail companies	MACP. ATMA, Aurangabad	2015		57
8.	Training on Goat farming	MAVIM, Aurangabad	2015	12700	86
	Sericulture beneficiaries empowerment training	District sericulture department, Aurangabad	2016	95550	50
9.	Azolla unit	ATMA, Aurangabad	2017	40000	20
10	Brinjal mitten	ATMA, Aurangabad	2017	40000	25
11	Revolving stand and stool	ATMA, Aurangabad	2017	40000	25
12	Exposure	ATMA, Aurangabad	2017	36000	30

	interstate visit of farm women				
13.	Soya-milk processing machine	ATMA, Aurangabad	2017	55000	-
14.	Exposure interstate visit of sericulture farmers	ATMA, Aurangabad	2018	80000	30
15.	Vermicompost unit	ATMA, Aurangabad	2019	40000	10
16.	Sillage unit	ATMA, Aurangabad	2019	40000	10
17.	Backyard poultry unit	ATMA, Aurangabad	2019	40000	20
18.	Financial assistant for innovative project on Date palm	ATMA, Aurangabad	2019	100000	-
19.	Financial assistant for purchasing of cocoon harvester, leaf chopping machine and humidifier and heater.	VNMKV, Parbhani	2019	125000	-

33. Details of externally funded projects if any

S. No.	Name of the funding agency	Title of project	Implementing from the year	Funds received so far (Rs. lakh)
	Nil	Nil	Nil	Nil

34. Brief account of visibility of KVK in the district / operational area

- Reputation of Host institute in social activity.
- Kisan mela, Agricultural exhibition, Technology week for mass communication.
- Participation in pest management campaign organized by state Department of Agriculture.
- Providing resource person to state Department of Agriculture, NGO.
- Krishi Vigyan Mandal programme.
- Agro mobile adversary.

35. Brief account of flagship programmes of KVK which has given it identity at state / national level with its impact on farming community

Krishi Vigyan Mandal -

36. Brief account of KVK based on evaluation by external agencies including FPOs/ FPCs / farmers clubs organized and facilitated by KVK

KVK conducted training program with the help of MACP, ATMA Aurangabad before establishment of 13 FPOs in the Aurangabad district. KVK also organized CITA sawand program for strengthening of running FPOs and guidance for establishment of new FPOs

37. Performance of KVK in respect of special programmes like NICRA, CFLD, Farmers First, ARYA, TSP, JSA, etc

MGM Krishi vigyan Kendra started Cluster Frontline Demonstration programme from the year 2013-14 under NFSM (Pulses).

CFLD on Redgram

Redgram is a kharif puls crop of Aurangabad District. Average area under Redgram cultivation is 29857 ha in the District. Traditional practice of farmers is to take as a intercrop in cotton as 8:1 row proportion. Some farmers are taking Redgram as a sole crop. Redgram has good potential in case of yield as well as it will help for soil restoration being a puls crop. From 2013-14 to 2018-19 CFLD redgram is implemented on 90 ha area covering 234 farmers with 8 villages in Kannad, Khultabad and Gangapur tahshil. Varieties introduce through this programme is BDN-708, BSMR-853 and BDN-711. Variety BDN-711 is preferred by farmers because of good yield potential and mid duration.

CFLD on Bengalgram –

Bengalgram is a important Rabi pulse crop of the District cultivated on 60294 ha in the District. This crop is cultivated by farmers after harvesting of Maize by doing minimum cultivation. Under this programme 11 villages are covered from Kannad, Khultabad, Gangapur and Aurangabad Tehshil of the District. In this programme variety demonstrated are Vijay, Digvijay, Jaki-9218 and Akash. Among these variteis Akash varity is preferred by farmers for rainfed situation and Digvijay and Jaki-9218 is preferred under irrigated condition**.**

38. Brief account of internal monitoring and review mechanism developed by KVK for its better performance and visibility in farming community

- Fortnightly staff meeting for review and planning
- Fortnightly visit to adopted village.
- Submission of monthly progress report of KVK activities and farm to host organization.

39. Status of web and mobile based agro-advisory services provided by KVK

Sr. no.	No. of messages	No. of beneficiaries
1.	204	313219

40. List of functional demonstration units at KVK with its capacity and output

S. No.	Name of the functional demo. Unit	Year of establishment	Production capacity / year	Average net profit per year (Rs. lakh)
1	Nursery	2014-15	50,000 seedlings (Vegetable, Forest, Ornamental, Flower)	Utilized on farm
		2015-16	50000 seedlings (Vegetable, Forest, Ornamental, Flower)	Utilized on farm
		2016-17	30000 seedlings (Vegetable, Forest, Ornamental, Fruit Flower)	20,000/- and Utilized on farm
		2017-18	70000 seedlings (Vegetable, Forest, Ornamental, Fruit, Flower)	0.20 lakh and Utilized on farm
		2018-19	85000 seedlings (Vegetable, Forest, Ornamental, Fruit, Flower)	0.81 lakh and Utilized on farm
2	Micro irrigation	2014-15	-	-
3	Processing and value addition	-	-	-
4	Protected cultivation (Seed production - Tomato)	2015-16	4.00 Kg	42000
	Protected cultivation (Seed production – Capsicum)	2015-16	3 Kg	32000
	Protected cultivation (Seed production - Tomato)	2016-17	15 Kg	60,000
	Protected cultivation (Seed production – Capsicum)	2017-18	4 Kg	29,000
	Protected cultivation (Tomato)	2017-18	5213 Kg	26,065
	Protected cultivation (Cucumber)	2017-18	1173 Kg	5,000
5	IFS model	-	-	-
6	Dairy	-	-	-
7	Poultry			
	Giriraj, Black Astrelorp	2016-17	98	19895
		2017-18	300	54000
		2018-19	200	10000
8	Goatary	2013-14	10 Kids	25000
		2014-15	14 Kids	32000
		2015-16	29 Kids	50000
		2016-17	18 Kids	35000
		2017-18	35 Kids	85000
9	Rain Water Harvesting structure	-	-	-
10	Any other –Seed Production			
	Okra	2015-16	34 Kg	11,630
	Onion	2015-16	186 Kg	93000
	Bitter gourd	2015-16	7.5 Kg	6750
	Okra	2016-17	94 Kg	36660
	Onion	2016-17	200 Kg	70,000
	Bitter gourd	2016-17	21 Kg	22,000
	Okra	2017-18	97 Kg	33900
	Bitter gourd	2017-18	41.5 Kg	53950
	Ridge gourd	2017-18	16.5	13200

	Quinoa	2017-18	154 Kg	15,400
11	Silage	2014-15	25 t	Utilized at farm
		2015-15	25 t	Utilized at farm
		2016-17	25 t	Utilized at farm
		2017-18	25 t	Utilized at farm
12	Vegetable production (Okra, Bitter gourd, Ridge gourd, Tomato, Chili, Brinjal, Spinach, Coriander, Fenugreek, Onion, Cauliflower, Cabbage)	2013-14	5 t	82000
		2014-15	6 t	60,000
	Vegetable production (Okra, Bitter gourd, Ridge gourd, Tomato,Brinjal, Spinach, Coriander, Fenugreek, Onion)	2015-16	4 t	30000
	Vegetable production (Okra, Bitter gourd, Ridge gourd, Tomato, Chili, Brinjal, Spinach, Coriander, Fenugreek, Onion, Cauliflower, Cabbage)	2016-17	5 t	40000
	Vegetable production (Okra, Bitter gourd, Ridge gourd, Tomato, Chili, Brinjal, Spinach, Coriander, Fenugreek, Onion, Cauliflower, Cabbage)	2017-18	5 t	32000
	Vegetable production (Okra, Bitter gourd, Ridge gourd, Tomato, Chili, Brinjal, Spinach, Coriander, Fenugreek, Onion, Cauliflower, Cabbage)	2018-19	7 t	50,000
13	Floriculture - Marigold	2013-14	1,384 Kg	34,625
		2014-15	1,085 Kg	30,000
		2015-16	600 Kg	18,000
		2016-17	887 Kg	25,000
		2018-19	1,042 Kg	30,000
14	Tuberose (sticks)	2013-14	9,092	22,306
		2014-15	16,700	29,850
		2015-16	7,000	14,000
		2016-17	12,200	24,400
		2017-18	5,000	15,000
		2018-19	4,450	13,350

41. Brief account on initiatives of KVK for handling major issues like,

a. Pink bollworm in Cotton

Management of pink bollworm in cotton, KVK Aurangabad II, organized training programme for pest monitoring, scouting and pest management. KVK also catered awareness amongst farmers by organizing community awareness program with the help of RAWE students, State Dept. of Agriculture, FPO and NGO (Lupin Foundation). From 2017-18 KVK laid experiment (OFT) on mass trapping on farmers field. KVK distributed 6000 pheromone traps and lures for mass trappings at Sakharvel Tq. Kannad. KVK Scientists participated in diagnostic visits jointly organized by State Dept. of Agriculture in district.

b. Fall army worm in maize

There was forewarning regarding incidence of Fall army worm. KVK Aurangabad II started campaigning from 30/04/2019 by on campus training. Till date KVK Aurangabad II organized 4 on-campus and 4 off-campus trainings. KVK Aurangabad II also organized community awareness programme for management of fall armyworm with the help of State Dept. of Agriculture, NGOs and FPOs. KVK also laid experiment (OFT) on farmers field. KVK also published extension literature *i.e.* folder on management of fall army worm and distributed copies to farmers.

c. White grub management

Management of white grub in different fields and fruit crops, KVK Aurangabad II organized on and off campus trainings. KVK also demonstrated use of light traps for white grub management. KVK Aurangabad also organized community awareness programme for management of white grub with the help of state Dept. of Agriculture, NGOs and FPOs. KVK also laid experiment (OFT) on farmers field. KVK also published extension literature *i.e.* folder on management of white grub and distributed copies to farmers.

d. Drought / flood mitigation

- Organized farmers meet on drought mitigation in the year 2015.
- Conducted 5 training program on in-situ moisture conservation, fodder management in scarcity situation.
- Introduced cotton + Green gram in adopted villages through FLD.
- Conducted awareness program about Bamboo plantation.
- Conducted training program on recharging of well, tube well and Shiwar punarbharan (Small water shed).

42. Innovative extension approaches / innovative methodologies / innovative technologies developed / continued by KVK during last eight years

Started Krishi vigyan mandal program from November 2016 on 21st of every month. In this program one scientist and one farmer who have worked on topic of discussion are invited to guide and interact with farmers. Farmers are invited by sending SMS from M-Kisan portal. Next topic of training program is decided on farmers demand, current need in ongoing program. During reporting period MGM KVK conducted 26 KVM program.

43. Farm innovations documented by KVK and validated and promoted in the district/state

Nil

44. Awards / recognitions received by KVK / farmers / scientists during last eight years

Sr. no.	Name of farmer	Award
1.	Ajay Jadhav	Green man Award, Corporate farmer icon
2.	Deepak Chvan	Krishi Bhusahn
3.	Tukaram Darekar	Krishi Bhusahn

45. Efforts made by KVK for doubling farmer's income and its impact

KVK adopted two villages namely Bhindon Tq. Aurangabad and Palaswadi Tq. Khultabad for doubling farmer's income. Initially baseline survey of these two villages completed and intervention are planed such as INM, IPM for increasing productivity of crops. Emphasis is also given to establish agro based enterprises such as dairy by giving support for preparation of silage, poultry and introduction of sericulture.

46. Expectations of KVK from ICAR / Host Organization

i) Funds for instructional farm development
ii) Funds for establishment of static soil testing lab, Plant health clinic.
iii) Help for registration from CIB for biopesticides production.

47. BROAD BASING OF FRONT LINE EXTENSION (2011-12 to 2018-19) (Nos.)

Sl.	Item	I (2011-12)	II (2012-13)	III (2013-14)	IV 2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
1	A.I. cases	-	-	-	-	-	-	-	-	-
2	Animal health care provided	-	-	-	50	20	-	-	-	70
3	Poultries introduction	-	-	-	-	-	-	-	1000	1000
4	Piggery/ rabbitory introduction	-	-	-	-	-	-	-	-	-
5	Planting material /seedlings produced and distributed	-	-	300	300	300	20800	800	300	22800
6	Fodder and grass introduction, ha	-	-	-	02	02	-	-	-	04
7	Trees introduction(no.)	-	-	-	-	-	-	-	-	-
8	Wasteland development plan prepared	-	-	-	-	--	-	-	-	-
9	Watershed development	-	-	-	-	-	-	-	-	-
10	Consultancy on soil analysis and topographic survey	-	-	-	-	-	-	-	-	-
11	Consultancy on land use planning and cropping pattern	-	-	-	-	-	-	-	-	-
12	Improved hand tools and implements introduced									
	Revolving stand and stool	-	-	-	-	35	-	-	-	-
	Brinjal mitten	-	-	-	-	35	10	-	-	-
	Cotton picking coat	-	-	-	-	10	-	-	-	-
	Sirreted Sickle	-	-	-	-	10	-	-	-	-
13	Fishery demonstrations	-	-	-	-	-	-	-	-	-
14	Animal health camp.)		-	-	01	-	-	-	-	01

48. Extension Activities Undertaken (last 8 years) (Numbers)

S.No.	Activity	I (2011-12)	II (2012-13)	III (2013-14)	IV (2014-15)	V (2015-16)	VI (2016-17)	VII (2017-18)	VIII (2018-19)	Total
1.	Field Days	-	-	03	02	01	-	02	02	**10**
2.	Agril. Exhibition	-	-	01	01	01	03	04	03	**13**
3.	Farmers' Fairs	-	-	01	-	04	-	02	03	**10**
4.	Radio Talk	-	-	-	-	-	-	-	-	**-**
5.	TV show	-	-	-	-	-	-	01	04	**05**
6.	Film show	-	-	-	02	03	-	08	-	**13**
7.	Training materials produced (a) Pamphlets (b) Video-cassette/ CD (c) Slides	-	-	-	-	-	-	-	-	-
8.	Farm Science Club	-	-	-	-	-	-	-	-	-
9.	*Mahila Mandals* Organized	-	-	-	-	-	-	-	-	-
10	Extension Training meetings	-	-	-	-	-	-	-	-	-
11	i.Kisan Ghosthi	-	-	-	04	03	01	02	-	**10**
	ii.Farmers Seminar	-	-	02	-	-	05	-	01	**08**
	iii.Lectures delivered as resource persons	-	-	-	-	04	-	-	-	**04**
	iv.Newspaper coverage	-	-	-	-	01	28	21	57	**107**
	v.Popular articles	-	-	-	-	02	01			**03**
	vi.Advisory Services	-	-	08	10	20	53	79	111	**218**
	vii.Scientific visit to farmers field	-	-	25	-	09	13	20	36	**103**
	viii.Farmers visit to KVK	-	-	-	-	40	88	329	378	**848**
	ix.Diagnostic visits	-	-	10	05	13	26	16	03	**73**
	x.Exposure visits	-	-	-	-	-	04	04		**08**
	xi.Animal Health Camp	-	-		01		-	-	-	-
	xii.Soil test campaigns	-	-	-	-	04	-	-	-	-
	xiii.Self Help Group Conveners meetings	-	-	-	01	-	-	03	-	**04**
	xiv.Celebration of important days (specify)	-	-	01	-	03	06	03	03	**16**
	xv.Farmers'- Scientists' Interaction	-	-	-	-	-	-	-	-	-
	xvi.Technology week	-	-	01	-	-	-	-	01	**02**

	Others, if any	-	-		-	-	-	-		
	Method demonstration			02	01	14	07	20	16	**60**
	Farmer's workshop	-	-	01	-	-	-	-	-	-
	Group meeting	-	-	-	06	09	12	08	05	**40**
	Soil health camp	-	-	01	-	02	-	01	01	**05**
	Health Camp	-	-	-	-	-	02	-	-	
	Eye check up camp	-	-	-	-	01	-	01	-	**02**
	Swachhata packawada	-	-	-	-	-	-	02	02	**04**
	Nutrition week	-	-	-	-	-	-	-	01	**01**
	Krishi Vigyan Mandal (Monthly workshop)	-	-	-	-	-	05	09	10	**24**

49. Publications made during the QRT period:

Type of Publication	Title and publishers/Journal/Magazine
Research article :	-
Technical Bulletin :	-
Popular article :	1. Drudgery reduction Daily Marathi Agrowon
	2. Kitchen garden Daily Marathi Divya Marathi
Electronic Media (CD) :	-
Extension Literature:	1. Soybean production
	2. Redgram production technology
	3. Green gram production technology
	4. Bengalgram production technology
	5. Cotton + Green gram intercropping
	6. Redgram + Perl millet intercropping
	7. Soil and water sampling technique.
	8. Green manuring
	9. White grub management
	10. Pink bollworm management
	11. Preparation different soybean product
	12. Drudgery reducing implements for farm women
	13. Kitchen garden
	14. Goat rearing
	15. Preparation of natural holi color
	16. Preparation of bakery products without using rebind flour.
Reports published in ICAR Reporters:	-
Impact Studies	-
Others, if any	-

50. Constraints faced in implementing KVK activities and your suggestions to overcome them.

Sr. no.	Constraints	Suggestion
1.	Lack of funds for vocational training	Provide separate funds
2.	Very few funds available for extension activities	Fund should be provided for organizing Kisan mela, Agricultural exhibition and Exposure visit.

51. Visit of NITI Ayog committee

NITI Ayog committee members visited KVK Aurangabad II for evaluation and grading. The team was lead by Dr. A. Kamla Devi in 2014-15 and by Dr. A.K. Williams in 2017-18.

51. Final Considered Views: In your perceived opinion, Please enlist five points in order of merit that your KVK could have performed far better if (within 250 words)

i) Timely recruitment of staff against vacant post due to mobility of staff
ii) Cyclic drought every year or prolonged dry spells resulting failure of crops.
iii) Lack of availability of public transport to reach KVK.
iv) Lack of funds for technical program and input distribution
v) Lack of funds for establishment of lab (SWTL, Biofertilizer, Bioagents)

Annexure I

STATUS OF RESEARCH – EXTENSION LINKAGES AT THE DISTRICT LEVEL

i. What kind of mechanism exists for local coordination of the front line extension demonstration between the KVKs and the State Govt.

Officer of line department are invited in SAC meeting for finalization of KVK activities every year. State department officers also invited to visit demonstration conducted by KVK. ATMA also provided funds to established demonstration units, exposure visit and innovative project.

ii. What is the frequency of Scientific Advisory Committee Meeting for KVK during last 8 years?

Scientific Advisory Committee Meeting conducted once in a year

iii. **No. of monthly workshops organized -** 26

iv. Frequency and no. of staff participated in seminars at Zonal, State and National level.

- Zonal level workshop/seminar attended :. 06
- National level workshop/seminar : 03
- State level workshop/seminar Whether the local NGO's are involved in KVKs programmes - 09

v. Whether the FPOs/FPCs are promoted (Specify Names with members and activities) and become visible in their activities –

Sr.no.	Name of FPO's	Venue	Activity of Company
1	Grushneshwar Agro Producer Company	Palaswadi, Tq.Khaultabad	Cleaning & grading of farm produce, Sale of agriculture inputs Animal Feed
2	Swarup Agro Producer Company	Sultanpur, Tq. Khultabad	Cleaning & grading of farm produce, Sale of agriculture inputs & Silage preparation

vi. Whether the local Mahila Mandal or Farm Science Clubs are promoted and become visible in their activities

Mahila mandal / SHG connected to KVK – 25

vii. A brief about the extent of contribution of the officials of various line departments and joint programmes undertaken.

Sr.no.	Department	Designation of officer	Joint programmes undertaken
1	State Department of Agriculture	SAO	Monthly workshop, Kisan Kalyan Abhiyaan, Unnat Sheti Samrudh Shetakari Abhiyaan, Soil health card Abhiyaan
2	ATMA	Project Director	Farmer's training, Exposure visit, Interstate training on sericulture, Azola unit, Vermi compost unit, Backyard poultry unit in adopted

			villages, FLD on Brinjal mitten & Revolving stand & stool, Financial help for Soya milk processing machine Innovative project on date palm at KVK Instructional farm
3	Sericulture	District Sericulture Officer	Beneficiaries empowerment program Provided Humidifier Technical support for establishment of sericulture unit
4	MAVIM	District Coordinator	Financial assistance for goat rearing training

viii. **No. of monthly workshops of state agril. Department attended / participated. -** 20

Annexure II

Impact of KVK in Terms of Agricultural and Animal Productivity, Socio-economic Conditions and Employment Generation during the QRT period in the Adopted villages

S. No.	Item	Unit	Prior to KVK			Post KVK activities		
1.	Change in cropping intensity 1Maize- Chick pea	(%)	100			200		
2.	Change in productivity of 1. Cotton 2. Red gram 3. Maize 4. Chick pea	(kg/ha)	10-12 q/ha 6-7 q/ha 28-30 q/ha 8-10 q/ha			13-14q/ha 7-8 q/ha 30-32 q/ha 10-12 q/ha		
3.	Use of HYV (high-yielding varieties) 1. Pigeon pea – BDN 711 2. Chick pea - Digvijay, Akash	(%)	5% 10%			40% 50%		
4.	Use of fertilizers (NPK) (nutrient) 1. Cotton 2. Maize 3. Pigeon pea 4. Bengal gram 5. Wheat 6. Rabi Sorghum	(kg/ha)	N 132 81 35 35 45 40	P 104 91 40 50 80 40	K 104 91 30 45 60 20	N 162 184 30.8 30.8 62.51 50	P 60 80 49.92 49.92 49.92 20	K 00 00 00 00 00 00
5.	Use of FYM and other biofertilizers	(kg/ha)						
6.	Tractor/machinery	(No)						
7.	Change in economic indicators (in adopted villages) (a) Net return/ha/yr (by crop/enterprise) 1. Cotton 2. Maize 3. Pigeon pea 4. Bengal gram	(No) Rs.	28686 21305 17000 20900			38559 28010 20900 23505		

Signature of Head of the KVK