

A. On Farm Testing (OFT)

Sl. No.	Crop/ Commodity	Year	Farming situation	Problem/ opportunity identified for which such intervention was taken	FP	Technology option tested	Results	Feedback	Remarks if any
1.	Black gram	Kharif, 2016	Rainfed Upland	Low yield due to loss of chemical fertilizer	Blanket use of Chemical fertilizer	Assessment of nutrient management and Plant growth regulator application on yield enhancement in Black gram	Yield (q/ha)-6.4	Plant growth regulator plays a vital role in the yield enhancement of the crop.	No. of nodules/plant-09 No. of pods/plant-34
2.	Tomato	Kharif, 2016	Rainfed Upland	Lesser yield due to non use of required amount of NPK and Bio-fertilizer.	No use of lime and bio-fertilizer	Assessment of bio-fertilizer application in Tomato (Application of bio-inoculants Azotobacter, Azospirillum, PSB @ 2 kg/ha)	Yield (q/ha)-225	Balanced dose of fertilizer mixed with appropriate amount of bio fertilizer enhances the yield of crop.	No of Fruits/Plant-68 Fruit weight (gm)-92 Plant Height (cm)-73
3.	Onion	Kharif, 2016	Rainfed Upland	Low income from Onion due to cultivation in Rabi season	Cultivation of Kharif onion Var. N-53	Assessment of Kharif Onion cultivation in rainfed upland situation (: Cultivation of Kharif onion Var. Bhima Red & Bhima Dark Red)	Yield (q/ha)-215 & 218	Cultivation of Kharif onion Var. Bhima Red and Bhima Dark Red. Seedling treatment with Tricoderma viridae @5g/l of water and cultivation in raised bed system with soil test based fertilizer application	Bulb size (cm)-45 & 42 Bulb Wt. (g)-72 & 85
4.	Banana	Kharif, 2016	Irrigated Medium	No cultivation of table purpose Banana	Cultivation of Tissue culture	Assessment on Performance of Tissue	Yield (q/ha)-212 & 252	Varietal trial on Performance of	--

			land		Banana Var. Grand naine	culture Banana var. Champa and Amrutpani		tissue culture Banana Champa and Amrutpani	
5.	Green gram	Kharif, 2016	Rainfed Up land	Leaves becomes yellow, production of few pods and size of pods is reduced, grains quality deteriorate	Application of Imidacloprid with improper dose and time	Assessment of IPM for YMV management in Kharif green gram (Foliar spraying of thiamethoxam 25% WG @ 0.6gm per liter of water)	Yield (q/ha)-5.6	YMV management in Green gram saves the crop from loss upto 40%	
6.	Pigeon Pea	Kharif, 2016	Rainfed Upland	Low yield due to pod borer infestation	No proper control measures by the farmers	Assessment of Emmamectin benzoate 5% SG for control of gram pod borer in pigeon pea (<i>Application of Emmamectin benzoate 5% SG @11 gm a.i./ha. @ 0.4 ml/liter at 10 days interval.</i>)	Yield (q/ha)-14.1	--	No of Pod/plant-30 % of YMV -2
7.	Goat	Kharif, 2016	Rain fed upland	Low conception rate, high rate of abortion and under nourished new born kid	Without mineral supplement into concentrate mixture	Assessment on effect of mineral supplements on performance of pre- parturient goat (T2-5 gm mineral supplement /200 gm of concentrate mixture/goat/ day for three month)	Body weight-63 gm/day	Mineral supplements should be added to goat ration with routine deworming and vaccination	--
8.	Cattle	Kharif, 2016	Rain fed upland	Low growth rate, Low appetite, frequent occurrences of diseases and weak and emaciated animal	Without liver tonic supplement into concentrate diet	Assessment on effect of liver tonic on performance of pre- parturient cattle (T2-50 ml Meboliv/2 kg of concentrate mixture/cow /day for three month)	Milk Yield- 4.3 L/day	Liver tonic should be recommended to growing calf with proper care and management	--

9.	Green gram	Rabi, 2016-17	Irrigated Medium land	Low yield green gram due to poor nutrient management	Tradition method of cultivation without seed inoculation	Assessment of VAM in green gram	Yield (q/ha)-6.6	--	--
10.	Sunflower	Rabi, 2016-17	Irrigated Medium land	Low yield and oil content of Sunflower due to Boron deficiency	Use of NPK only (20-40-40), no use of Boron	Assessment of Sulphur and Boron application in Sunflower (RDF (60-80-60) + sulphur @ 25 kg/ha + foilar application of Boron @ 1 kg/ha at the time of flower initiation.)	Yield (q/ha)-14.9	Boron and Sulphur application in Sunflower increases the oil content upto 18.25%	--
11.	Tomato	Rabi, 2016-17	Irrigated Medium Land	Low yield of Tomato due to high weed infestation and high moisture loss in upland condition	Mulching is not practices by farmers in tomato cultivation	Assessment on Performance of Poly mulching in Tomato crops for resource conservation (50 micron thickness bicolour poly mulch + Drip irrigation)	Yield (q/ha)-312	T2- 50 micron thickness polymulch T3- 50 micron Polymulch + Drip Irrigation	No. of fruit/Plant-138 Fruit Wt (g)-82
12.	Tomato	Rabi, 2016-17	Irrigated Medium land	Low yield due to high infestation of fruit borer	Indiscriminate spraying of profenophos, deltamethrin, cypermethrin	Assessment of Integrated Management in Tomato fruit borer (Application of Spinosad @ 0.35 ml/ l of water)	Yield (q/ha)-197	--	% of damaged fruit-3
13.	Paddy	Rabi, 2016-17	Irrigated Medium land	High disease incidence causes low crop yield	Spraying of hexaconazole in improper dose	Assessment of combine fungicide (Tricyclozole +Propiconazole) 52.5 SC against Sheath blight in Paddy (Seed treatment with Vitavax power and Application of (Tricyclozole +Propiconazole) 52.5	Yield (q/ha)-28.8	Combine fungicide affects against sheath blight in paddy upto 39%	--

						SC @ 4ml /10 lit of water)			
14.	Cattle	Rabi, 2016-17	--	Low conception rate, high rate of abortion and under nourished new born calf	Practicing cattle rearing without administration of feed supplement into diet	Assessment on effect of feed supplements on performance of pre-parturient cattle (50 gm feed supplement (Suplivite-M) per 1 kg of concentrate diet twice in a day for three months)	Milk Yield-4.75 L/day	Mineral supplements should be added to cattle ration with routine deworming and vaccination	--
15.	Cattle	Rabi, 2016-17	--	Low growth rate, Unhealthy animal, weak and emaciated animal	Practicing cattle rearing without administration of antiparasitic drug	Assessment on effect of anti parasite on performance of cattle (Poron -1 ml mix with 1 Litre of water and midline spray with interval of two days for one month)	Milk Yield-3.56 L/day	Ecto parasite and endo parasite should be administered at regular interval with proper care and management	--
16.	Cotton	Kharif, 2017	Rainfed Upland	Low yield due to sucking pest infestation	Farmers are applying improper dose of chemicals like imidachloprid and Deltamethrin	Assessment of Bio chemical control measures against mealy bug infesting in cotton (T1 :Spraying of NSKE @ 5 ml/lit. with 15gm surfactant with 5ml of fish oil /lit of water. T2 : Application of Flonicamid 175 g a.i/ ha with surfactant T3: Application of Profenophos 50 EC @ 2ml/lit of water)	Yield (q/ha)-21.5 Yield (q/ha)-20.0 Yield (q/ha)-23.0	--	
17.	Paddy	Kharif, 2017	Rainfed low land	Low yield due to high infestation of insect pest	Indiscriminate & improper dose of application of	Assessment of IPM modules for the management of plant	Yield (q/ha)-34.0 Yield (q/ha)-36.0 Yield (q/ha)-41.0	--	

					imidacloprid, quinalphos & chloropyriphos	hoppers in rice (T1 :Skip row planting (after 3 m), installation of spider trap @ 25/ ha T2 : Need based alternate spraying (based on ETL) of thiomethoxam @ 100g/ ha and buprofenzin @ 750 ml/ ha with tank mix of neem oil T3: Skip row planting (after 3 m), installation of spider trap @ 25/ ha. Need based alternate spraying (based on ETL) of Flonicamid 175 g a.i/ ha with tank mix of neem oil)			
18.	Potato	Kharif, 2017	Rainfed Upland	Unavailability of suitable HYV	Cultivation of Potato variety Kufri Jyoti	Assessment on Performance of Kharif Potato variety Kufri Ashoka & Kufri Pukhraj	Yield (q/ha)-132.5 142.0	Tuber Wt (g)-78 Tuber Wt (g)-82	
19.	Cattle	Kharif, 2017	--	Low conception rate, high rate of abortion and under nourished new born calf	Practice of cattle rearing without administration of feed supplement into diet and unorganized feeding management	Assessment on effect of feed supplements on performance of Cattle (T1-Feeding of indigenous cattle with 100 gm of mineral supplements (Supplivite + Liquid Calcium). 1kg of concentrate diet and 12-15kg of grass daily for three month. T2-Feeding of	Avg. milk production(L/Day)- 4.9 Avg. milk production(L/Day)- 4.77	--	

						indigenous cattle with 100 gm of mineral supplements (Agrimin forte+Rumen FS). 1kg of concentrate diet and 12-15kg of grass daily for three month)			
20.	Duck	Kharif, 2017	--	Lack of awareness about the duckrearing	Rearing of duck in local available water bodies	Evaluation of CARI model of duck farming in (T1: Rearing of duck in polythene pond of dimension up to 10ft X 10ft X2.5 ft for age group of 2 weeks and above T2: 50-100 gm of feed daily during scavenging and vaccinate with i) Duck cholera- 1ml/sub-cutaneously at 3-4 week)	Avg. Body weight gain (g/day)-6.5 Avg. Body weight gain (g/day)-7.4	Annual Egg Production (no.)-202 Annual Egg Production (no.)-207	
21.	Pigeonpea	Kharif, 2017	Rainfed upland	Unavailability of suitable HYV within 10years	Farmers use of Old and degenerated cultivar with more infestation of pod borer affecting yield	Assessment of pigeon pea varieties <i>BRG-4</i> , <i>BRG-5</i> & <i>Rajeeblochan</i> under Kalahandi conditions	Yield (q/ha)-14.4 Yield (q/ha)-11.9 Yield (q/ha)-12.4	No. of pods/plant -74 No. of pods/plant - 68 No. of pods/plant -71	
22.	Greengram	Rabi, 2017-18	Irrigated medium land	Low yield due to improper nutrient management	Low yield due to lack of seed inoculation and acidic soil and Soil test based fertilizer	Assessment of seed coating of Greengram with lime (T1 : STBF+ Inoculation of Rhizobium	Yield (q/ha)-7.1 Yield (q/ha)-7.5	No. of pods/plant -18 No. of pods/plant -19	

					recommendation with no Rhizobium inoculation	T2 : STBF+Inoculation of Rhizobium with Lime seed coating)			
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B. Frontline Demonstration (FLD)

Sl. No.	Crop/Commodity	Year	Farming situation	Problem/opportunity identified for which such intervention was taken	FP	Technology Demonstrated	Results	Feedback	Remarks if any
1.	Paddy	Kharif, 2016	Rainfed Medium land	Low yield due to heavy weed infestation	Manual weeding is practiced	Demonstration on Integrated Weed management in Transplanted Paddy (Application of granular formulation of Bensulfuron methyl 0.6% + Pretilachlor 6% herbicide at 3 DAT provides effective solution for weed control in rice)	Yield (q/ha)-29.4	No.of Tiller/hill-16 Panicle length (cm)-22	--
2.	Maize & cowpea	Kharif, 2016	Rainfed upland	Low yield from rainfed upland	Solo cropping of Maize	Demonstration on Intercropping of Maize with Cowpea in unbounded Kharif upland (Maize with cowpea (Maize Spacing 60 X 30cm in 2:2 ratio, planting of cowpea at 7 DAS of maize))	Yield (q/ha)-12.5(Maize) Yield (q/ha)-24.9 (Cowpea)	--	--
3.	Banana	Kharif, 2016	Rainfed Upland	Low yield due to nutrient management	Blanket use of Chemical fertilizers	Demonstration of nutrient management in tissue culture	Yield (q/ha)-376	No of fruit/plant-285 Bunch weight (Kg)-31	--

				practices	without split doses	Banana (FYM-10-15 kg per pit, 300-100-300 gm NPK per pit, N 200gm at 2,4,6 months and K 300gm at 2,6 months after planting.)		Bunch length (Cm)-90.5	
4.	Cowpea	Kharif, 2016	Rainfed upland	Low yield due to YMV and unavailability of suitable variety	Cultivation of local Cowpea Var. Jhari	Demonstration on production performance of cowpea variety Utkal manika (Moderately tolerant to YMV disease, fruits are fleshy type and yield potential of 35q/ha)	Yield (q/ha)-310	Fruit Length(cm)-42.1 No. of Fruit/ Plant-125	--
5.	Brinjal	Kharif, 2016	Rainfed upland	Low yield due to lack of integrated nutrient management practices	No use of plant growth regulator	Demonstration on performance of GA3 application in Brinjal (Application of GA3 @ 30 ppm. at 70 days after transplanting during (flowering Stage))	Yield (q/ha)-285	Fruit Size (cm)-65.2 Fruit Wt. (g)-108	--
6.	Paddy	Kharif, 2016	Rainfed Medium land	Low productivity due to stem borer infestation	Trizophos @ 2ml/litre of water	Demonstration on insecticides with botanicals and parasites for management of stem borer in paddy (Cartaphydrochloride 4% @ 1.25 kg/ 10 decimal in nursery field, Spraying of neem oil 1.0% @ 2.5 ml/ltr of water, Release of <i>T. japonicum</i> @ 50.000/ha twice in 15 days interval)	Yield (q/ha)-21.6	% of dead heart-6 % of white ear head-7	--
7.	Pigeon Pea	Kharif, 2016	Rainfed upland	High cost of cultivation and Less return due to incidence of insect pest	Farmers do not applying any specific pesticide for gram pod borer management.	Demonstration on integrated pest management of pod borer in pigeon pea (Installation of pheromone trap @ 20 /acre with application of neem based pesticide @5ml/liter at vegetative stage & spraying	Yield (q/ha)-11.8 Yield (q/ha)-11.5	Pod borer infestation (%) - 8 & 11 No of infested Pod/plant-27 & 18	--

						of Triazophos + Deltamethrin @2ml/liter of water for management of pod borer in pigeon pea.)			
8.	Goat	Kharif, 2016	--	High mortality due to diseases	No deworming drug	Demonstration on effect of deworming drugs on performance of goat (Administration of fenbendazole 5 mg/goat)	Body weight-58gm/day	--	--
9.	Cattle	Kharif, 2016	--	Low milk yielding capacity of milch animals	Without liquid calcium supplement into concentrate diet	Demonstration on effect of liquid calcium supplement performance of dairy cow (Administration of liquid calcium , 100ml/day/cow)	Milk Yield-4.58 L/day	--	--
10.	Ground nut	Rabi, 2016-17	Irrigated medium land	No herbicide application, manual weeding at irrational stage / time of crop growth	One hand weeding (21 days) is practiced	Demonstration of herbicides against weed management in Groundnut (Post emergence application Imazethapyr @ 750 ml/ha at 15-20 DAS + one hand weeding)	Yield (q/ha)-17.3	No. of Pod/plant -40 No of seed/pod-2 Plant height (cm)-52	--
11.	Paddy	Rabi, 2016-17	Irrigated medium land	Rampant use of chemical fertilizer	Application of Urea N in 1:2:1 ratio at basal;active tillering:PI stage along with all P and K at basal (NPK 60:30:30)	Demonstration on Performance of leaf colour chart in rice (Basal application of 13 Kg Urea +Application of urea based on leaf colour chart reading at 7 days interval from 14 days onwards after transplanting (P and K as basal 30:30 Kg/ha), VAR-Jogesh)	Yield (q/ha)-31.3	No.of Tiller/hill-16 Panicle length (cm)-27	--
12.	Onion	Rabi, 2016-17	Irrigated medium land	Low yield due to nutrient management practices	Use of NPK only (20-40-40), no use of Boron	Demonstration of Boron & Sulphur application in Onion(Soil application of Sulfex@20kg/ha & spraying	Yield (q/ha)-310	Bulb diameter (cm)-18 Bulb Weight (gm)-46	--

						of Borax@0.5% during bulb formation stage with RDF as per soil test value.)			
13.	Ground nut	Rabi, 2016-17	Irrigated medium land	Low yield due to lack of nutrient management	Seed inoculation is not practiced by the farmers	Demonstration on Application of lime & Rhizobium in groundnut (Application of Lime.2LR+20g/Kg of seed treatment with Rhizobium)	Yield (q/ha)-17.2	Avg. no. of peg/plant-45	--
14.	Cauliflower	Rabi, 2016-17	Irrigated medium land	Unavailability of suitable Hybrids	Cultivation of locally available hybrids	Demonstration on Cauliflower var. Summer King	Yield (q/ha)-345	Curd wt.(g)-1150	--
15.	Watermelon	Rabi, 2016-17	Irrigated medium land	High cost and Less return due to lack of nutrient management	Hormone is not applied by farmers	Demonstration on Performance of Growth regulator in Watermelon (Application of Micronutrient @ 3g/L of water)	Yield (q/ha)-354	Vine Length(cm)-92	--
16.	Paddy	Rabi, 2016-17	Irrigated medium land	Low yield due to high incidence of pest	Indiscriminate & improper dose of pesticides	Demonstration on Management of panicle mite in Kharif paddy (Seed treatment with Imidachloprid 70%WS @ 7gm/kg seed, Installation of sticky trap @50/ha and Need based spraying of Acetameprid @ 100 gm/ acr at 7days interval)	Yield (q/ha)-23.8	% of infestation -5	--
17.	Brinjal	Rabi, 2016-17	Irrigated medium land	Less income due to disease infestation	Spraying of Bavistin & Cypermethrin	Demonstration on Management of wilting in Brinjal (Seedling root dip and Soil application of T Viridae @ 2kg /ac soil drenching of Redomil MZ 1250g/ha & Proper water management practices)	Yield (q/ha)-172 Yield (q/ha)-164	Wilting % -8 & 2 No of infestation plant/10mt ² 11 & 03	--
18.	Fodder crop	Rabi, 2016-17	Irrigated medium land	Lack of awareness about fodder	Fodder cultivation is not practiced by	Demonstration on fodder cultivation (Cultivation of	Milk Yield- 5.45 L/day		--

				cultivation among dairy farmers	farmers	Hybrid napier)			
19.	Duck	Rabi, 2016-17	--	Unavailability of suitable breed	Rearing of locally available duck breed	Demonstration on duck farming (Rearing of Khaki camble duck)	Body weight-1.68kg/6month		--
20.	Greengram	Kharif, 2017	Irrigated Medium land	Low yield due to lack of crop management practices	Farmers are applying Chloropyriphos & Triazophos with improper dose	Demonstration on IPM for YMV management in greengram (Application of Ozoneem @ 2.5 ml/lit of water twice at 15 DAS & 30 DAS Fixation of yellow sticky trap @ 50 /ha Need based Foliar spraying of Thiomethoxam 25% WG @ 0.6gm per liter of water)	Yield (q/ha)-6.5	No of plant affected /10 Mt ² -3	
21.	Chilli	Rabi, 2017-18	Irrigated upland	Low return due to pest infestation	No control measure or irrational application of any broad spectrum insecticide	Demonstration on suitable management schedule for mite infestation in Chilli (Removal of affected plant part + Spraying of water to break the webs Application of Fenazaquin 10 EC @ 1 ml/lit. at 7-8 days interval. Application of Fenpyroximate 5 EC @1 ml/ lit at 7-8 days interval)	Yield (q/ha)-48.0	% of infestation -6	
22.	Chilli	Rabi, 2017-18	Irrigated up land	Low return due to nutrient managemnet	Soil application of chemical fertilizer RDF(110:70:75kgN :P:K/ha)	Demonstration on foliar application of water soluble fertilizers in chilly (: Foliar spray of NPK 19:19:19 at a concentration of 3 gm/lit at 45 ,60 and 70)	Yield (q/ha)-48.8	--	
23.	Sweetpotato	Kharif, 2017	Rainfed upland	Low yield due to locally available	Cultivation of Local variety Rani kanda	Demonstration on high yielding variety Sweet	Yield (q/ha)-251.2	Tuber Wt. (g) -232 No. of Tuber/Plant	

				cultivars		Potato Kanchan		-9	
24.	Brinjal	Kharif, 2017	Rainfed Upland	Low yield due to locally available cultivars	Cultivation of Brinjal variety Blue star	Demonstration on Brinjal variety Arka Neelachal Shyama	Yield (q/ha)-301.4	No. of Fruit/Plant -108 Fruit Wt. (g) -213	
25.	Goat	Kharif, 2017	--	Low growth rate and High mortality	Practicing goat Rearing without administration of any de-worming drugs and feed supplements	Demonstration of health management in goat for enhanced milk production	Milk production (L/day)-1.6		
26.	Fodder	Kharif, 2017		Lack of awareness about fodder cultivation among dairy farmers	No cultivation of fodder grass for cattle rearing	Demonstration on Fodder cultivation for higher milk production in cattle (Feeding to lactating cow with 20 kg Maize & Hybrid Napier (Cut after 2 months of sowing), supplemented with 1kg of concentrate mixture daily)	Avg. milk production (L/day)-5.4	--	
27.	Quail	Kharif,2017	--	Lack of awareness about quail farming	No practice of quail farming	Demonstration on quail farming for profitable egg and meat production (Rearing of Japanese quail , Verities: <i>Cari uttam</i> (Broiler quail) and Cari pearl (Egg type quail) in a shed area of 1m ² /5 bird and fed quail with 20 gm of feed supplements/day)	Annual Egg Production (no.)-280		
28.	Groundnut	Rabi,2017-18	Irrigated medium land	Low yield due to weed infestation	Low yield in ground nut due to more crop weed competition . Herbicide application is	Demonstration on weed management of groundnut by pre-emergence herbicide oxyflurofen 23.5EC	Yield(q/ha)-18.5	No. of Pods/plant-33	

					improper and no follow-up				
29.	Greengram	Rabi,2017-18	Irrigated medium land	Low yield in Greengram due to improper nutrient management	Blanket dose of chemical fertilizer is used by the farmers	Micronutrients application in greengram for quality and yield enhancement (T1:Application of ZnSO ₄ soil application @25 kg/ha, Borax@10kg/ha, seed treatment with Rhizobium culture @200gm/10kg seed and soil test based fertilizer Application)	Yield(q/ha)-7.2	No. of pods/plant-19	
30.	Paddy	Rainfed Upland	Kharif,2017	Low yield due to moisture stress in upland	Cultivation of locally available variety “chhetka” which is a short duration to avoid moisture stress	Popularization of improved drought tolerant variety of paddy <i>CR Borodhan-2</i>	Yield(q/ha)-38.1	No. of tillers-16.8	