UNIVERSITY OF AGRICULTURAL SCIENCES
GKVK, BANGALORE

PRE ACTION PLAN 2021-22

ICAR - KRISHI VIGYAN KENDRA , V.C.Farm, Mandya - 571 405

Date: 6 and 7th, April, 2021

Venue: ICAR - Krishi Vigyan Kendra, Hadonahalli, Doddaballapura, Bangalore Rural District-561 203

KVK Manpower and facilities	
No. of Scientist in position	Seven (7) Scientists including Head
No. of Prog. Assistants in position	One (1) Farm Manager Two (2) Programme Assistants
KVK Farm details Total Area (Acres) Cultivated area (Acres)	 16.00 14.00
Demo Units details (ha.)	
Compost	43.18 sq.m
Fish pond	300 sqm
Low cost Silkworm rearing unit	23 x 33 ft
Paddy	1.0 ha.
Sugarcane	1.5 ha.
Mulberry	0.4 ha.

KVK Manpower and facilities	
Production Units 1. Coconut Nursery 2. Vegetables 3. Paddy seed production 4. Cocoon production 5. Coconuts	**Expected Output of 2021-22** 3000 No. 500 Kg 70 q 380 Kg 8000 nuts
Laboratories details 1. Soil and Water Testing Laboratory	1000 soil samples 450 water samples
2. Plant Protection Laboratory	Trichoderma 1000 kg Pseudomonas 1000 kg
3. Home Science Laboratory	Ragi malt 200 Kg



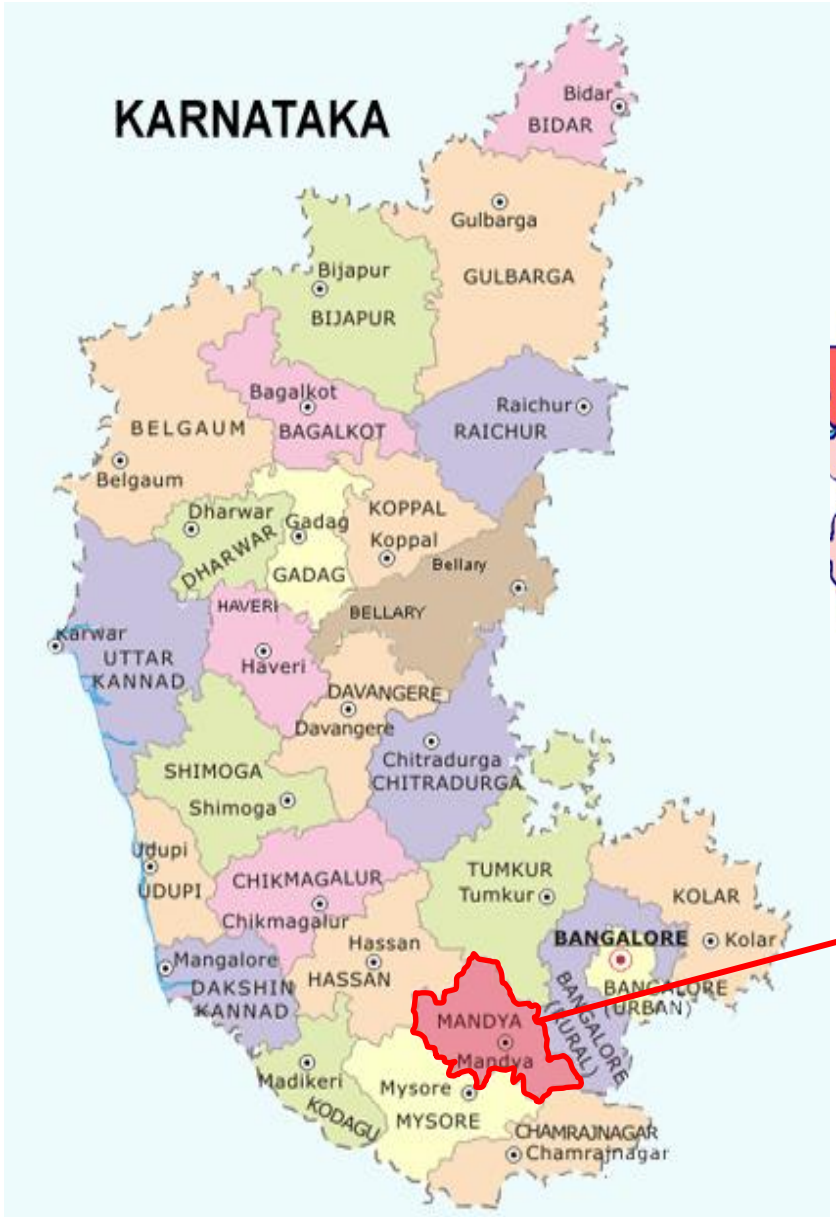


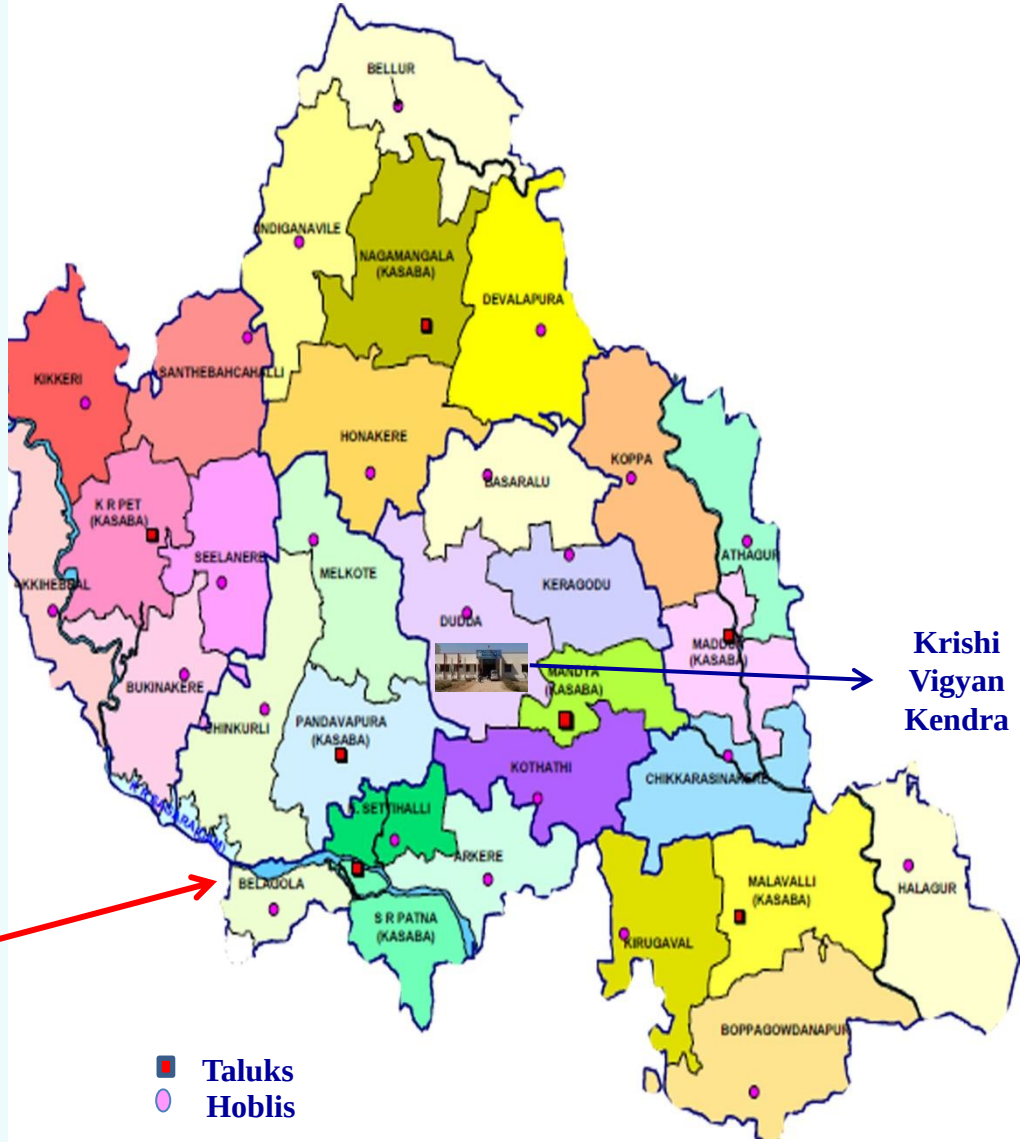


THURST AREAS

- High yielding varieties
- Improved cultivation practices
- Integrated Nutrient management
- Pest and Disease management
- Nutritional Security
- Value Addition

Mandya District

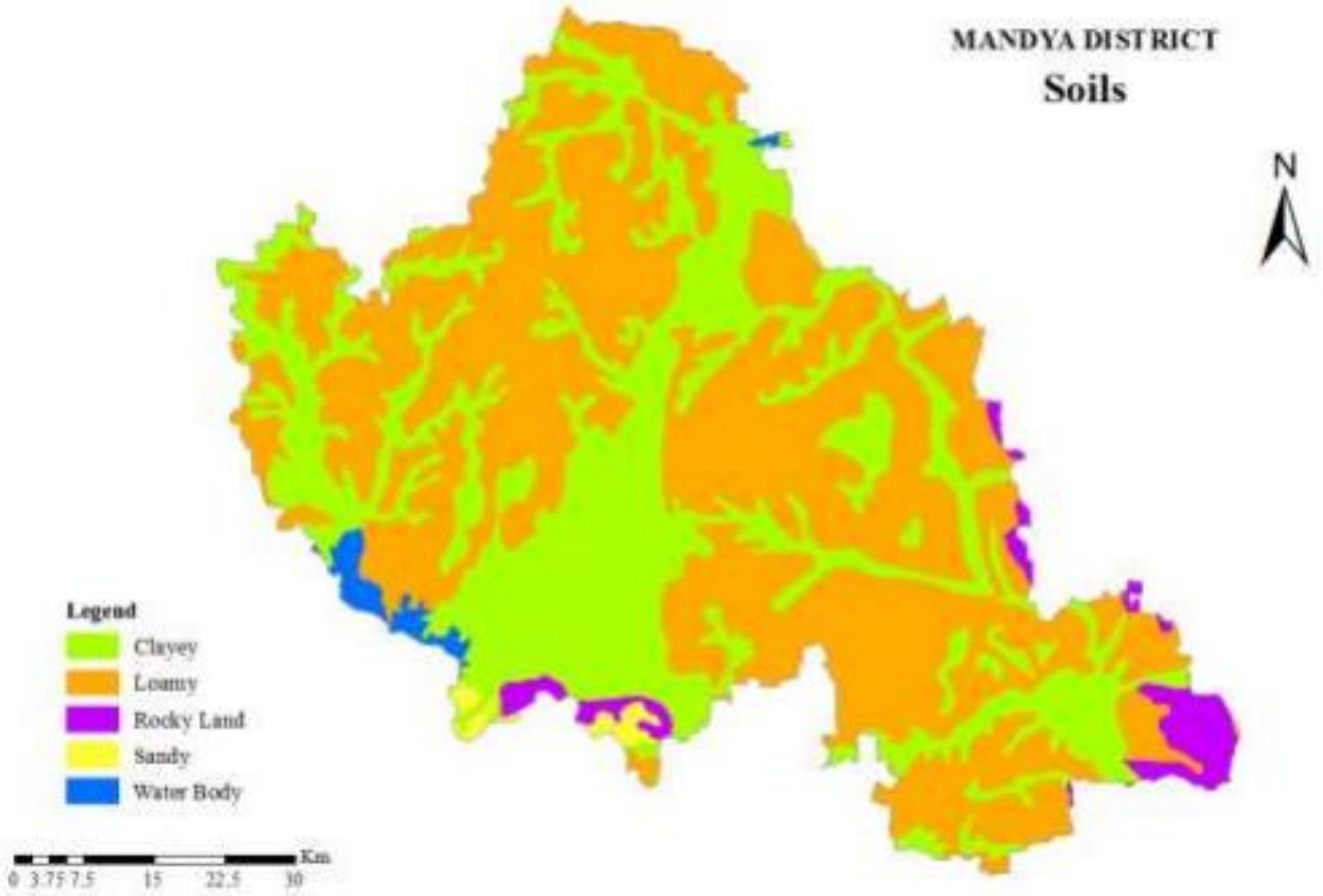




Mandya District

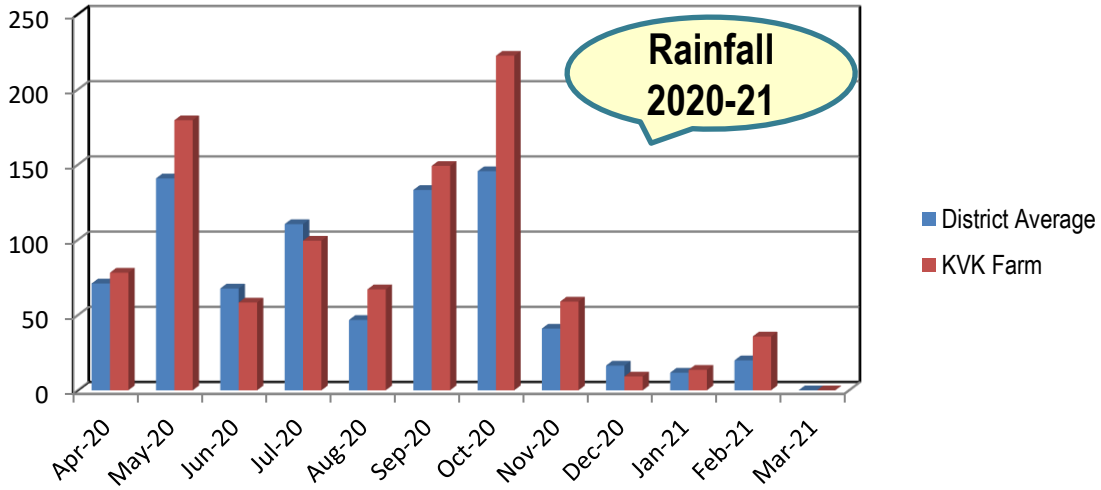
Taluks	: 7 Taluks (Mandya, Maddur, Malavalli, K.R.Pete, Nagamangala, Srirangapatna, Pandavapura)
Hoblis	: 32
No. villages	: 1559
Major crops in Kharif	: Paddy, Sugarcane, Ragi, Maize and Vegetables
Major crops in Rabi	: Paddy, Ragi & vegetables
Major perennial crops	: Coconut, Mulberry, Mango
Agro-climatic zone	: Southern Dry Zone
Annual Rainfall	: 670.6-888.6 mm / annum ( )
Major Soil Types	: Red sandy loam & Small packets of red loam and black soil

Agro-climatic Zone	Characteristics
Zone-6 (Karnataka)-Southern dry zone	Average rainfall- 670.6 - 888.6 mm per annum Elevation in m- 800-900 m in major areas an 450-800 in remaining area Soil type- Red sandy loam in major area and small packets of red loam and black soil Water source- Cauvery command area (46% of cultivable land) Rainfed (54% of cultivable land)
Agro-ecological sub region-4	Hot moist, semi arid ecological sub division with length of growing period of 150-180 days
Total Geographical Area	4,961 Sq.Km
Area under irrigation (%)	1,69,534 (48%)
Sources of irrigation	Canal (ha.) -102806, Tank (ha.) - 21799 Wells (ha.) - 8157, Borewells (ha.) -5002 Lift Irrigation (ha.) - 470



Red loamy sand 60% (125400 ha.)
clay loam 20-25% (60600 ha.)

Rainfall in mm			Temperature in ^{0} C		RH in (%)	
Month	District Average	KVK Farm	Maximum	Minimum	Morning	Evening
Apr-20	71	78.2	34	21	91	52
May-20	140.9	179.6	33	21	92	61
Jun-20	67.7	58.4	29	19	91	66
Jul-20	110.5	99.5	29	19	95	71
Aug-20	46.8	67.1	29.8	21.4	89	69
Sep-20	133.2	149.2	30.2	21	90	74
Oct-20	145.7	222.5	31.4	18.8	92	77
Nov-20	41	59	31.1	18	90	75
Dec-20	16.4	9.2	28	17.2	91	76
Jan-21	11.7	13.6	29.4	16.8	88	56
Feb-21	19.9	36.8	30.1	16	83	40
Mar-21	0	0	29	14	66	31
Total	804.8	972.1	Source: COA, V.C.Farm, Mandya			



Taluk wise land utilization

Sl. No.	Taluks	Geographical area (ha.)	Forest area (ha)	Barren & Uncultivable land (ha)	Cultivable waste (ha)
1	K. R. Pete	91551	5767	3522	6510
2	Maddur	61846	20	750	128
3	Malavalli	80949	12179	1847	2420
4	Mandya	71512	1507	3935	2319
5	Nagamangala	103885	2516	6891	26178
6	Pandavapura	52743	2051	2838	3900
7	Srirangapatna	35758	725	1736	500
	Total	498244	24765	21519	82425

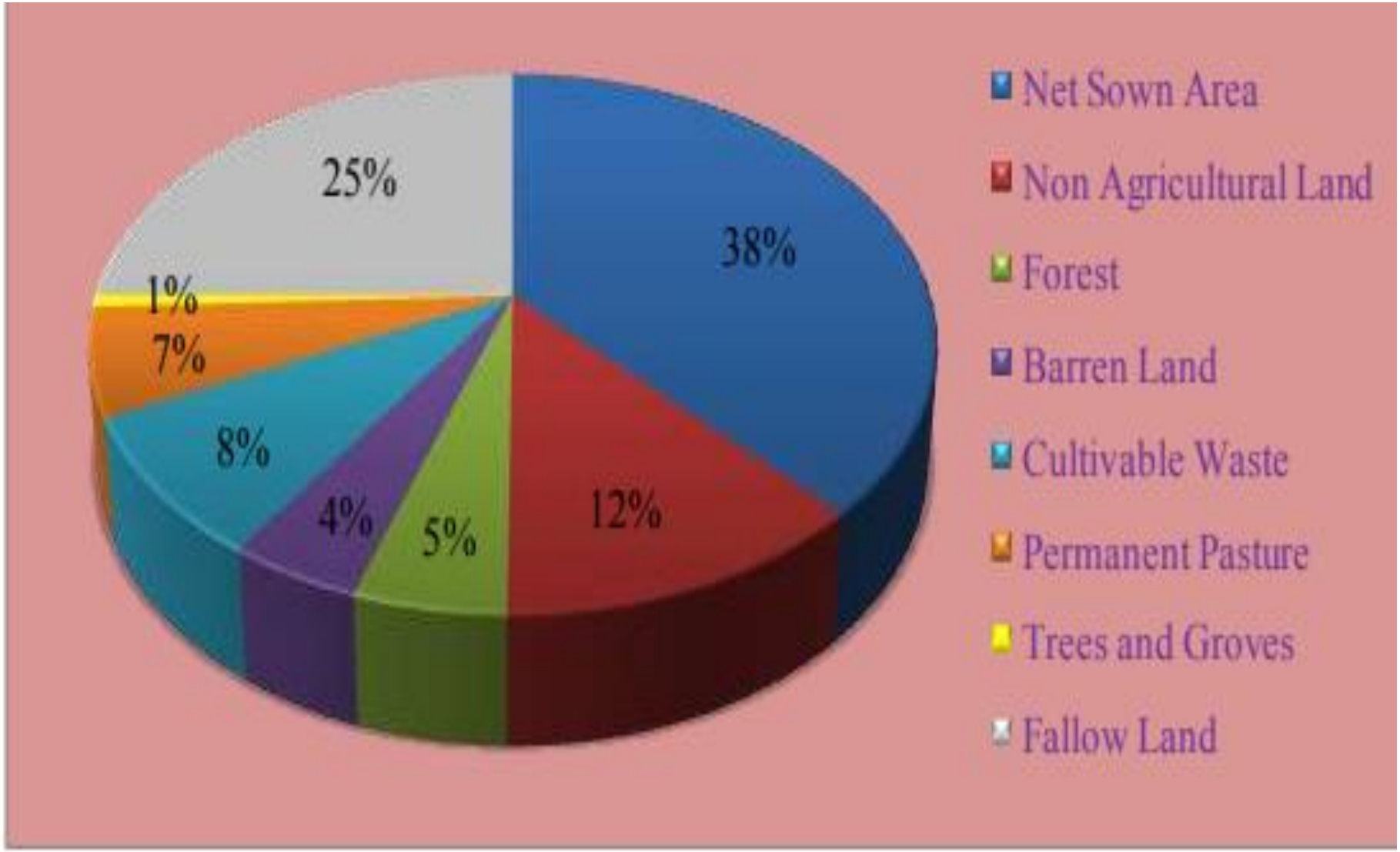
Source: Dept. of Statistics, Mandya

Taluk wise land utilization

Sl. No	Taluks	Fallow land (ha.)	Area sown (ha)		
			Net	More than once	Total
1	K. R. Pete	15054	35964	20163	56127
2	Maddur	13636	28554	8018	36572
3	Malavalli	24860	26558	11874	38432
4	Mandya	20614	30113	11480	41593
5	Nagamangala	32546	22646	28664	51310
6	Pandavapura	6690	27999	3234	31233
7	Srirangapatna	13475	12413	4211	16624
	Total	126875	184247	87644	271891

Source: Dept. of Statistics, Mandya

Land Utilization Pattern in Mandya District



Source: Dept. of Statistics, Mandya

Agricultural land holdings and area in Mandya district

Particulars	Land holdings (Nos.)	Area (ha)
Marginal land holding (<1 ha)	425131	139990
Small land holding (1-2 ha)	70631	95418
Semi Medium land holding (2-4 ha)	24231	63232
Medium land holding (4-10 ha)	4291	22572
Large land holding (> 10ha)	187	2848
Total Agril. Land holders	524471	344060

Source: Dept. of Statistics, Mandya

Area, production, productivity

Sl. No	Crop	Area (ha)	Production (Metric tons)	Productivity (kg /ha)
1	Paddy	89285	255290	3046
2	Ragi	79670	109004	1504
3	Mulberry (Cocoon)	16884	19043	500
4	Jowar	226	462	245
5	Maize	5938	7859	4572
6	Groundnut	1729	8234	854
7	Niger	1236	283	220
8	Sesamum	1342	738	550
9	Castor	1500	1425	950
10	Other oil seeds	9867	-	-
11	Horse gram	9648	5634	496
12	Cowpea	4237	1980	440
13	Green gram	400	150	375
14	Black gram	400	176	440
15	Other pulses	27933	-	-
16	Sugarcane	39845	1558620	42358
17	Fruits	6262.00	132077.66	21090
18	Vegetables	6852.97	169531.00	24740
19	Flowers	2372.52	Loose flowers (MT): 25700.89 Cut flowers (lakh No.): 422.61	10830
20	Plantation crops	64726.53	180168	2780
21	Spices	567.52	3060.47	5390

Source: Dept. of Statistics, Mandya

Area, Production and Productivity of Major horticultural Crops

Sl. No.	Name of crop	Area (ha.)	Production (MT)	Productivity (MT/ha)
1	Coconut	62802.5	176816	2.82
2	Banana	3055	61843	20.24
3	Mango	2089.12	25342	12.13
4	Sapota	243.97	4017.30	16.47
5	Papaya	386.71	28450.64	73.57
6	Tomato	2292.21	98827	43.11
7	Beans	1300.2	13114	10.09
8	Chilli	318.15	3915.9	12.31
9	Onion	154.273	2047.85	13.27
10	Gourds	1101	20675	18.78
11	Marigold	215.84	2062.48	9.56
12	Chrysanthemum	1894.58	23423.4	12.36

Source: Dept. of Statistics, Mandya

Yield Gap of Major Crops in Mandya District

Sl. No	Crop	Yield per ha in kg; Sugarcane tonnes/ha			Yield gap with respect to FLD	
		District	State	Frontline Demonstration	Kg/ha	%
1	Paddy	3400	4743	6940	3540	51
2	Jower	1800	1217	1900	100	5
3	Ragi	2200	1972	3800	1600	42
4	Maize	3200	3330	5900	2700	46
5	Redgram	*625*	967	1400	775	55
6	Horsegram	600		600	0	0
7	Blackgram	480		500	20	4
8	Greengram	470		500	30	6
9	Cowpea	500		500	0	0
10	Avare	*400*		500	100	20
11	Groundnut	950	908	2000	1050	53
12	Seasamum	*550*		600	50	8
13	Caster	960		1000	40	4
14	Niger	*250*		400	150	38
15	Sugercane	110	95	116	6	5

Constraints for yield Gap of Major Crops

Sl. No.	Crop	Constraints for yield gap
1	Paddy	• No Seed treatment with fungicide and bio-fertilizer • Absence of application of recommended quantity of organic manure • Absence of effective management of weeds • Less use of farm machinaries • Absence of reclamation of problematic soils.(8000 ha. of paddy area is problematic soils i.e., Saline, alkaline and Water logged) • Rarely grow green manuring crops • Improper pest and disease management • Unaware about the post harvest handling, grading and processing practices
2	Ragi	• Lack of knowledge about new varieties • Lack of awareness about selection of variety according to sowing date • Improper weed management • Less use of Farm machineries • Improper pest and disease management • Lack of awareness on value addition
3	Maize	• This yield gap mainly due to the factors such as a biotic stresses viz., low rainfall with uneven distribution; • Poor water holding capacity of soils and • Poor nutrition management especially of micronutrient • Inadequate drainage

Constraints for yield Gap of Major Crops

Sl. No.	Crop	Constraints for yield gap
4	Pulses	• Lack of improved and quality seed • Non adoption of seed treatment with Bio-fertilizers • Poor adoption of recommended Package of Practices • Poor nutrition management • Poor management of pest and diseases • Lack of use of improved farm implements & machineries
5	Vegetables	• Lack of awareness about improved varieties / hybrids • Improper nutrient management • Improper pest and disease management • Lack of awareness about post harvest management and value
6	Fruits	• Non usage of high yielding varieties / hybrids • Improper nutrient management • Improper pest and disease management • Lack of knowledge in Post harvest handling and storage
7	Sericulture	• Lack of awareness on Bivoltine / Bivoltine double hybrid • Lack of awareness on new technologies *viz.,* Phyto ecdysteriod (Sampoorna), bed disinfectants, non adoption of disinfection of rearing house and equipments • Non adoption of wider spacing in mulberry cultivation

Doubling of Farmers income (DFI)

The specific objectives for DFI

1. To identify technologies for *enhancing productivity* of the existing major crops and enterprises in the district.
2. To find out means of *reducing the cost of cultivation* of major crops and enterprises.
3. To explore opportunities for *crop diversification* in the existing major farming Systems.
4. To find out opportunities of *value chain development and market linkage* for enhancing and doubling farmers' income.

Strategies of KVK for DFI

- Enhancement of productivity
- Technologies for reduction in cost of cultivation
- Crop diversification
- Value addition

Technological interventions by KVK in DFI

Problems identified	Technological interventions	DFI strategy	Method adopted	Village
1. Cereals				
Paddy				
Low yield and quality, Lack of awareness on balanced nutrient management in salt affected condition, Boron deficiency in soil	Nutrient Management in salt affected soil	Productivity Enhancement	FLD	H. Kodihalli Yadaganahlli
Incidence of blast (65-70%), sheath blight (32%), BPH (28%) and stem borer in paddy, Indiscriminate use of N fertilizers and Low yield & poor quality	Integrated Pest Management in Paddy	Cost reduction	FLD	Yadaganahalli Hullenahalli
Ragi				
Low yield, lack of short duration varieties, low income	Introduction of ragi var. KMR-630	Productivity enhancement	FLD	Yadaganahalli Nelamakanahalli
Maize				
Low yield, lack of high yielding hybrids	Introduction of hybrid MAH-14-5, ICM practices	Productivity enhancement	FLD	Nelamakanahalli

Technological interventions by KVK in DFI

Problems identified	Technological interventions	DFI strategy	Method adopted	Village
2. Pulses				
Blackgram				
Low yield, high pest and disease incidence	ICM practices	Productivity enhancement	CFLD	Hullenahalli Nelamakanahalli
3. Minor millets				
Foxtail millet				
Less income by selling the grains without processing	Promotion of Minor millets for Value Addition	Value addition	FLD	Hullenahalli

Problems identified	Technological interventions	DFI strategy	Method adopted	Village
4. Vegetables				
Capsicum				
Leaf curl virus, Nutrient management	ICM in Capsicum	Productivity Enhancement	FLD	Brahmadevarahalli, Hullenahalli
Tomato				
Severe incidence of early and late blight and sucking pest	Integrated crop management in tomato	Cost Reduction & Productivity Enhancement	FLD	Jakkanahalli Brahmadevarahalli
Ridge gourd				
Lack of awareness about high yielding varieties High incidence of fruit fly	Integrated Crop Management in Ridge Gourd	Cost Reduction & Productivity Enhancement	FLD	Brahmadevarahalli, Hullenahalli
Cabbage				
Low yield, pest and disease management, high cost of cultivation	Integrated crop management in Cabbage	Cost Reduction & Productivity Enhancement	FLD	Brahmadevarahalli

Problems identified	Technological interventions	DFI strategy	Method adopted	Village
5. Plantation crops				
Coconut				
Mono-cropping, no appropriate use of space, low income and poor soil fertility status	Intercropping of French Bean in coconut garden	Crop Diversification	FLD	Hullenahalli Yadaganahalli
6. Spices				
Ginger				
High incidence of root rot and leaf spot	Integrated Crop Management in ginger	Cost Reduction	FLD	Hullenahalli
7. Fruit crops				
Banana				
Improper nutrient management, Lack of knowledge on bio-agents	Integrated Crop Management in Banana	Productivity Enhancement	FLD	Hullenahalli
Papaya				
Improper nutrient scheduling	Integrated Nutrient Management in Papaya	Productivity Enhancement	FLD	Brahmadevarahalli /Hullenahalli

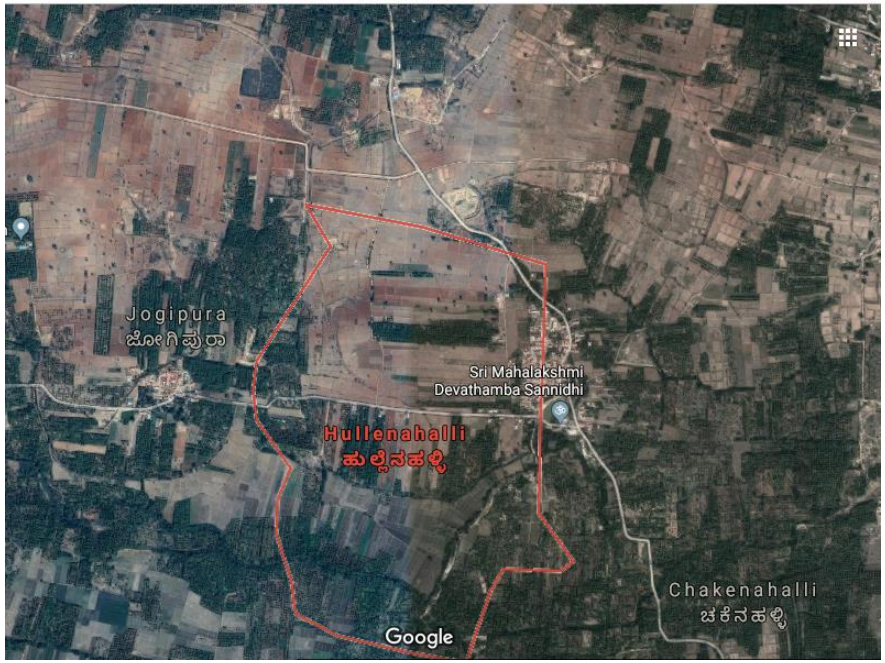
Problems identified	Technological interventions	DFI strategy	Method adopted	Village
8. Sericulture				
Mulberry				
Poor Quality of mulberry leads to low yield and poor quality cocoons	Demonstration on Foliar Sprays of Mulberry	Productivity enhancement	FLD	Chikka gangawadi
Silkworm rearing				
Lack of awareness on Improved hybrids, Low yield and poor quality	Popularization of improved silkworm hybrid FC-1 X FC-2	Productivity enhancement	FLD	Nelamakanahalli
Uneven maturation, Wastage of Mulberry leaf, Require more labour,	Demonstration on Phytoecdysteroid for Synchronized Maturation of Silkworm	Cost reduction	FLD	Chikka gangawadi
Unscientific disposal of Sericulture wastes, Environmental contamination, Lack of Knowledge on better utilization of sericulture wastes	Assessment of different compost cultures in composting of sericulture wastes	Productivity enhancement	OFT	Chikkag angawadi

Identified villages for implementation of DFI through FLD, OFT, CFLD

TALUK	VILLAGES	Crops covered by interventions through OFT, FLD, CFLD
Mandya	Hullenahalli	Paddy, Pulses, Capsicum, Papaya, Betelvine, Banana, Tomato, Multicut Sorghum, Foxtailmillet, Okra, Frenchbean, Sericulture
	Chikkagangawadi	
Maddur	Yadaganahalli, Nellur	Paddy, Maize, Ragi, French bean, Betel vine Greengram, Cowpea,
Malavalli	Nelamakanahalli	Maize, Mulberry, Silkworm
Nagamangala	Brahmadevarahalli	Pole bean, Tomato, Capsicum, Papaya, Cabbage, French bean

Bench mark survey details of DFI village: HULLENAHALLI, MANDYA TQ.

Name of the village	:	Hullenahalli Mandya Tq.
Soil type	:	Red soil
Farming situation	:	Irrigated
Total farm families	:	656
Total population	:	3453
Area (ha)	:	948
Cultivable area (ha)	:	450
Major crops	:	Paddy, Ragi, Sugarcane, Blackgram, Cowpea, vegetables & Coconut
Average rainfall	:	718 mm
Average annual income	:	15000/- to 20000/-
Small farmers	:	450
Medium farmers	:	206
Large farmers	:	-



Geographical area	1045.56
Latitude	12.9866° N,
Longitude	76.6846° E
Total cultivated area	450
Rainfed area	Nil
Irrigated area	450
No. of households	656
Total population	3453
No. of Males	1832
No. of Females	1621
Literacy (Average)	67.6%
Marginal farmers	450
Small farmers	206
Big farmers	-
Land less labours	22

Bench mark survey details of DFI village: Chikkagangawadi, MANDYA TQ.

Name of the village	:	Chikkagangawadi
Soil type	:	Red loamy, Laterite, sand
Farming situation	:	Irrigated
Total farm families	:	135
Total population	:	406
Area (ha)	:	170.8
Cultivable area (ha)	:	120.25
Major crops	:	Paddy, Sugarcane, Ragi, Mulberry, Coconut, Flower crops
Average rainfall	:	736 mm
Average annual income	:	25,000 – 30,000/-
Small farmers	:	42
Medium farmers	:	66
Large farmers	:	27

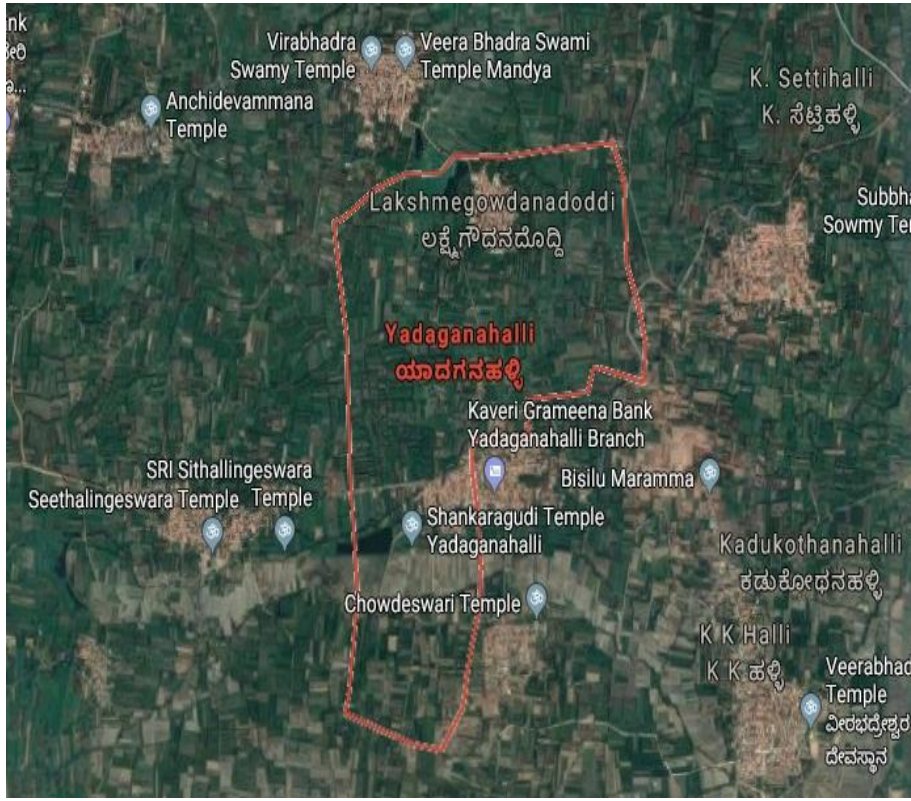
Geographical area	175.65 ha.
Latitude	12.6664
Longitude	76.7343
Total cultivated area	120.25
No. of households	96
Total population	406
No. of Males	210
No. of Females	196
Literacy (Average)	58.81%
Male Literacy	68.91%
Female Literacy	47.73%






Bench mark survey details of DFI village: YADAGANAHALLI, MADDUR TQ.

Name of the village	:	Yadaganahalli
Soil type	:	Red loamy sand
Farming situation	:	Irrigated
Total farm families	:	236
Total population	:	2863
Area (ha)	:	417.80
Cultivable area (ha)	:	100.13
Major crops	:	Paddy, Sugarcane, Ragi, Maize, Sorghum
Average rainfall	:	762mm
Average annual income	:	20,000-25,000/-
Small farmers	:	134
Medium farmers	:	56
Large farmers	:	46



Geographical area	1035.22 ha
Latitude	11.7667
Longitude	76.5667
Total cultivated area	309.67
No. of households	493
Total population	2863
No. of Males	1418
No. of Females	1339
Literacy (Average)	65.35%
Male Literacy	74.57%
Female Literacy	55.41%

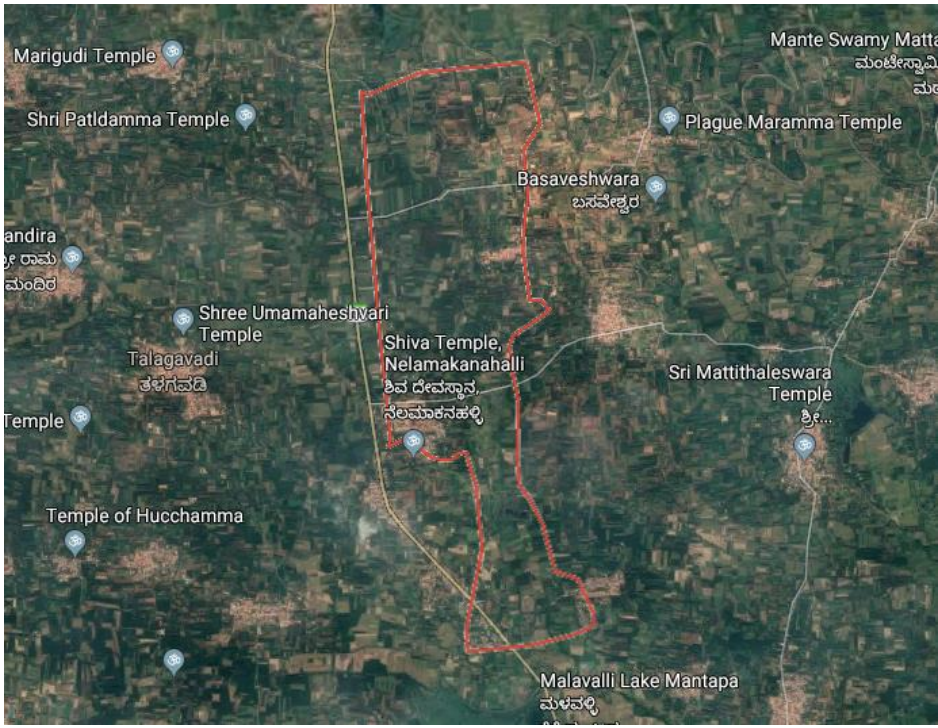
Bench mark survey details of DFI village: BRAHMADEVARAHALLI, NAGAMANAGALA TQ.

Name of the village	:	Bramhadevarahalli
Soil type	:	Red loamy soil
Farming situation	:	Rainfed and Semi-irrigated
Total farm families	:	152
Total population	:	840
Area (ha)	:	179.46
Cultivable area (ha)	:	26.46
Major crops	:	Small onion, chilly, capsicum, cabbage, cauliflower coconut, Foxtail millet
Average rainfall	:	750mm
Average annual income	:	30000-35000/-
Small farmers	:	81
Medium farmers	:	65
Large farmers	:	6

Geographical area	225ha
Latitude	12^0.8548
Longitude	76^0.7927
Total cultivated area	93ha
No. of households	160
Total population	840
No. of Males	430
No. of Females	410
Literacy (Average)	68.73%
Male Literacy	78.87%
Female Literacy	58.10%

Bench mark survey details of DFI village: NELAMAKANAHALLI, MALAVALLI TQ.

Name of the village	:	Nelamakanahalli
Soil type	:	Red sandy loam
Farming situation	:	Irrigated
Total farm families	:	413
Total population	:	3068
Area (ha)	:	1590.20
Cultivable area (ha)	:	134.90
Major crops	:	Paddy, vegetables, sugarcane, Sericulture, ragi, maize
Average rainfall	:	699mm
Average annual income	:	20000-25000/-
Small farmers	:	390
Medium farmers	:	23
Large farmers	:	-



Geographical area	1707
Latitude	12^0.4926
Longitude	77^0.1751
Total cultivated area	1155.30
No. of households	737
Total population	3068
No. of Males	1525
No. of Females	1543
Literacy (Average)	61.34%
Male Literacy	69.28%
Female Literacy	53.46%

Action Plan : 2021-22

LIST OF OFTs

Sl. No.	Title
1	**Assessing the performance of Hybrid Napier varieties in Mandya District (New)**
2	**Assessment of growth regulator -GA_3 in enhancing Chrysanthemum yield (New)**
3	**Assessment on Management of Mites and Thrips in Mulberry (New)**
4	**Assessment on management of uzifly in silkworm rearing (Contd.)**

OFT-1. Assessing the performance of Hybrid Napier varieties in Mandya District (New)

Prioritized problem:

- Low yield due to use of old varieties
- Less palatability & Nutritionally low quality fodder

No. of Trials: 3

Area (ha): 0.24

Village: Hullenahalli cluster

Season: Kharif

Technologies to be assessed:

Technological Options	Technology interventions	Characteristics	Source
TO -1	CO-3	GFY=90-95 t/ha, leaf to stem ratio=0.69, crude protein = 6-7%	Farmers Practice
TO -2	BHN-10	GFY=100-110 t/ha, leaf to stem ratio=0.76, crude protein = 7.5-8.0%	UAS B
TO -3	PBN-342	GFY=115-120 t/ha, leaf to stem ratio=0.84, crude protein = 6-7%	PAU, Ludhiana
TO -4	Super Napier/Pakchong 1	GFY=100-105 t/ha, leaf to stem ratio=0.63, crude protein = 6-7%	Nakhonratchasima Animal Nutrition Research and Development Center, Thailand

Critical inputs/Demo	Qty (kg)	(Rs.)	Amount (Rs.)
Planting material			
CO-3	**1600**	**1.0/slip**	**1600**
BNH-10	**1600**	**1.0/slip**	**1600**
PBN- 342	**1600**	**1.0/slip**	**1600**
Super Napier	**1600**	**1.0/slip**	**1600**
Total (Rs./demo)			**6400**

Observations to be recorded

- **Plant height (cm),**
- **No. of tillers per plant,**
- **Leaf to stem ratio**
- **Green fodder yield (t/ha)**
- **Palatability (%)**

Total Budget = Rs. 19,200/-

OFT 2- Assessment of growth regulator -GA_3 in enhancing Chrysanthemum yield

NEW

Problems: Improper bud opening, small flower size, Reduction in flower yield and quality

District area: 1894.58 ha
Production: 23423.40 MT
Productivity: 12.36 t/ha
Yield gap: 7 t/ha

Tech. options	Details of technology	Source of Technology
FP	Farmers Practice (No use of growth regulators)	Farmer's practice
TO 1	Application of GA3 @100 ppm after one month of pinching.	UHS(B)
TO 2	Application of GA3 @ 50 ppm on 30 and 40 and 65 days after transplanting. Spraying of Borax- 0.1% at flowering stage, Pinching @ 35 DAT.	IIHR(B)
TO 3	Application of GA3 @ 50 ppm on 30, 45 and 60 days after planting.	TNAU, Coimbatore

Critical Inputs:	Observations:		Place:
GA3 and seedlings	Plant height, Number of branches, No. of flowers/ pl, Flower weight, Yield and B:C ratio	No. of trials : 3 Area: 0.3 ha Total Cost / trial: Rs. 18,200 Budget : Rs. 54,600	Brahmadevarahalli and Hegdahalli

Critical inputs				
Options	Name	Qty/trial	No. of seedlings	Cost / trial (Rs.)
TO 1	GA3	20g	4000	6000.00
TO 2	GA3 + Borax	20g+200g	4000	6200.00
TO 3	GA3	20g	4000	6000.00
			Total cost / trial	18,200.00
			Grand Total for 3 trials	54,600.00

OFT-3 : Assessment on Management of Mites and Thrips in Mulberry

NEW

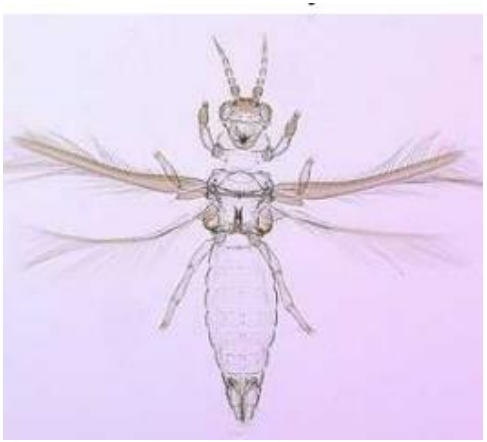
Dist. Area	Dist. Avg. Yield	Yield Gap
16,884 ha	45 MT/ha/year	15 MT/ha/year

Problem: least leaf yield, lack of growth due to infestation and less cocoon yield

Rationale Eco-friendly and efficient management of mites and thrips

Options	Details of technology	Source
FP	Spraying of Dichlorvos (0.2%), Dimethoate 30 EC (0.2%), Neem soap (10gm/L) at 12-15 DAP	Farmer practice
TO1	Spraying of Dimethoate 30% EC (0.2%) at 8 DAP & propargite 57 EC (0.15%) at 15 DAP	UAS Bengaluru
TO2	Spraying of Dimethoate 30% EC (0.3%) at 8 DAP & Formathion (0.5%) at 15 DAP	CSRTI, Mysuru
TO3	Spraying of Fungus (Shatpada-All rounder) - @ 20 gm/litre & Bacteria (Shatpada-Master Blaster) - @ 20 gm/litre	NBAIR, Bengaluru

Critical Inputs (1trial)			
Inputs	Qty	Cost/unit	Total (Rs)
Dimethoate	1500 ml	900	1350
Propargite	1000 ml	1700	1700
Formathion	500 ml	2000	1000
Shatpada-All rounder	16 kg	200	3200
Shatpada-Master Blaster	16 kg	200	3200
Neem soap	2 kg	300	600
Soil Analysis	3	200	600
		Total	11650
Total cost : Rs.11650 × 3 = 34950 + 1000 (Name Board) = Rs. 35950/-			



Parameters

- Soil fertility status
- Growth parameters
- Mites incidence (%) & Thrips incidence (%)
- No. & cost of sprays, Yield, B:C ratio

Biosafety Parameters

- Silkworm larval mortality (%) from days after spray.
- Effect of insecticides on larval duration (h) in 20 days after spraying
- Growth index (gm/larva)
- Weight of single cocoon (gm)
- Single shell weight (gm)
- Shell ratio (%)
- Effective rate of rearing (ERR %)

Team Members : Scientist- PP, Seri, Prog. Asst.

OFT-4 : Assessment on management of uzifly in silkworm rearing

Contd..

Dist. Area	Dist. Cocoon production	Yield Gap
16,884 ha	19,043 MT (70 kg / 100 DFLs)	15 kg / 100 DFLs

Problem : Severe infestation of uzifly during rainy and winter, more defective cocoon leads to low cocoon price

♦ Suitable uzifly management will enhance more cocoon yield and price

FP	Fixing Nylon net on all doors and windows
TO1	Nylon net + Uzi trap CSRTI Mysore
TO2	Nylon net + Yellow sticky trap KSSRDI, Bangalore
TO3	Nylon net + Sex pheromone trap + NT CSRTI, Mysore

No. of Trails: 03
Village: Hullenahalli

Parameters:
No of uzifly trapped,
No. of worms infested
Defective cocoon %
Cocoon yield (Kg/100 dfls)
BCR

DFI concept – Productivity Enhancement

Team members : Scientist- Seri, Prog. Asst

Critical input	Qty/ Trail	Unit cost (Rs.)
Nylon net	1 Bundle	1500 FC
Yellow sticky trap	12 No.	720
Sex Pheromone trap	6 No.	840
Nesolynx thymus	6 No.	600
	Cost per demo	3660=00
	Total cost for 3 Trials	10,980=00

Sl. No	Treatments	% of Uzi incidence	Cocoon yield	B:C Ratio
FP	Fixing Nylon net on all doors and windows Farmers' Practice	3.2%	80.06	2.50
TO1	Nylon net + Uzi trap CSRTI Mysore	2.8%	85.20	2.63
TO2	Nylon net + Yellow sticky trap KSSRDI, Bangalore	4.67%	87.36	2.77
TO3	Nylon net + Sex pheromone trap + NT, CSRTI, Mysore	1.67%	87.59	2.94

Farmers feedback: Adaptation of integrated practices will enhance higher cocoon yield and quality cocoons

Frontline Demonstrations

LIST OF FLDs

Sl. No.	Title
1	Demonstration of new paddy variety MSN-99 (New)
2	Demonstration of short duration ragi variety KMR-630 (Contd.)
3	Integrated Crop Management in Maize (Contd.)
4	Integrated crop management in Field bean (New)
5	Integrated crop management for capsicum production (Contd.)
6	Integrated nutrient management in papaya (Contd.)
7	Integrated crop management in potato (New)
8	Nutrient Management in paddy for yield enhancement under salt affected soils (Contd.)
9	Demonstration of Tomato Hyb. Arka Abhed (Contd.)
10	Integrated Crop Management in Cabbage (Contd.)
11	Integrated crop management in chilli (New)
12	Integrated Crop Management in Banana (Contd.)

Sl. No.	Title
13	Integrated Crop Management in Ridge Gourd (New)
14	Integrated Crop Management in ginger (New)
15	Popularization of improved silkworm hybrid FC-1 X FC-2 (Contd.)
16	Integrated Nutrient Management in Mulberry (Contd.)
17	Integrated management of leaf roller in Mulberry (New)
18	Demonstration of value added products from Amla (New)
19	Urban Terrace Gardening (New)

FLD 1: Demonstration of new paddy variety MSN-99

New

Prioritized problem	Technology to be demonstrated	Source
❑*Low yield ,* ❑*Lack of short duration and fine grain varieties with good cooking qualities,* ❑*Low income*	1. Introduction of new paddy variety MSN-99 2. Seed treatment with Azospirillum and PSB 3. Integrated weed management : Application of pre emergent herbicide (Ben sulfuron Methyl + Pretilachlor) and hand weeding 4. Integrated disease and pest management	UAS (B)

Critical Inputs

Particulars	Qty. per Demonstration	Cost per Demonstration (Rs.)	Total cost (Rs.) (15 Demo's)
Paddy var. MSN-99	25 kg	900	13,500
Azospirillum	400g	40	600
PSB	400g	40	600
$ZnSO_4$	4kg	350	5250
Ben sulfuron Methyl +Pretilachlor (Londax Power)	4kg	850	12750
	Total	2180	32,700

Observations to be recorded:

- Yield parameters, yield and economics

Team Members: Scientist – Agron, PP, SS&H

Implementation
No. of Demonstrations: 15
Area: 6 ha
Cluster: Yadaganahalli and Hullenahalli

FLD 2: Demonstration of short duration ragi variety KMR-630

(Contd.)

Dist. Area	Dist. Avg. Yield	Yield gsp
79670 ha	2200 kg/ha	1600 kg/ha (42%)

Prioritized problem: ***Low yield , Lack of short duration varieties, Low income***

Source: UAS (B)

Technology to be demonstrated

1. Introduction of new and short duration variety KMR 630
2. Application of FYM @ 4 t/acre
3. Seed treatment with biofertilizer (Azospirillum @ 200g/acre)
4. Line sowing

Particulars	Qty. per Demonstration	Cost per Demonstration (Rs.)	Total cost (Rs.)
Ragi var. KMR-630 seeds	5 kg	275	2750
Azospirillum	200 g	20	200
	Total	295	2,950

Observations to be recorded:

- Yield parameters, yield and economics

Team Members: Scientist – Agron, SS & AC,, PP, SS&H

Implementation
No. of Demonstrations: 10
Area: 4 ha
Cluster: Yadaganahalli

Results

Particulars	Demo plot	Check plot
Plant height cm	107.34	119.60
No. of tillers per plant	4.42	3.80
No. of fingers per panicle	8.58	6.45
Finger length (cm)	9.30	7.86
Yield (q./ha)	37.50	26.50
Percent increase	41.50	-
Economics		
Gross cost (Rs./ha)	38600	43350
Gross income (Rs./ha)	120000	84800
Net income (Rs./ha)	81400	41450
B:C	3.10	1.95

Farmers feedback: Increase in yield and high income
And Non lodging of plants

FLD 3: Integrated Crop Management in Maize

(Contd.)

Dist. Area	Dist. Avg. Yield	Yield gsp
5938 ha	3200 kg/ha	2700 kg/ha (40%)

Prioritized problem:

- ***Low yield due to use of local and private varieties***
- ***Non application of micronutrients.***
- ***Labour scarcity for timely weeding.***
- ***Lack of Knowledge on pest and disease management***

Implementation

No. of Demonstrations: 10

Area: 4 ha

Village: Nelamakanahalli, Yadaganahalli,

Technology to be demonstrated

1. Introduction of ***hybrid Maize MAH-14-5.***
2. Seed treatment with biofertilizer (Azospirillum and PSB @ 200g/acre each)
3. Application of Zinc sulphate (8kg/acre)
4. Application of pre emergence herbicide Atrazine @1 kg a.i. /ha
5. Application of need based plant protection chemicals

Source: UAS (B)

DFI concept – Productivity Enhancement

Critical inputs per demo	Qty. (kg/acre)	Rate (Rs./kg)	Cost /demo (Rs.)	Total cost (10 demos)
Maize seeds	6.0	110	660.00	6600
Azospirillum	200 g	100.0	20.00	200
PSB	200 g	100.0	20.00	200
$ZnSO_4$	4.0	85.00	340.00	3400
Atrazine	1.00	190.00	190.00	1900
Ridomil MZ	1 Kg	950/kg	950.00	9500
		Total	2180	21,800

Team Members: Scientist – Agron, SS & AC,, PP, SS&H

Observations to be recorded:

- Yield parameters, yield and economics

Results

Particulars	Demo plot	Check plot
Plant height (cm)	205	189
Cob girth (cm)	5.60	4.94
No. of lines per cob	15.34	12.82
No. of grains per cob	555	486
Length of cob (cm)	18.68	18.54
Yield (q/ha)	86.75	68.20
Percent increase in yield	27.19	-
Economics		
Gross cost (Rs./ha)	37650	41400
Gross returns (Rs./ha)	156150	122760
Net returns (Rs./ha)	118500	81360
B:C ratio	4.14	2.96

Farmers feedback: High yield and high income , it can be used for fodder purpose also at the harvesting time

FLD 4:Integrated crop management in Field bean

New

Prioritized problem	Technology to be demonstrated	Source
✓*Low yield due to use of local varieties,* ✓*No seed treatment with biofertilizers,* ✓*Indiscriminate use of plant protection chemicals*	1. Popularization of field bean variety HA-3 2. Seed treatment with biofertilizers *viz.*, Rhizobium and PSB 3. Foliar spray of DAP @2% at 45 DAS 4. Spraying of Imidachloprid @0.5ml /l 5. Spraying with Profenophos @ 2ml/l 6. Spraying of Emamectin Benzoate @0.4g/l	UAS (B)

Critical inputs

Particulars	Qty. per Demonstration	Cost per Demonstration (Rs.)	Total cost (Rs.) (10 Demo's)
Seeds	10 kg	2000	20000
Rhizobium	200g	20	200
PSB	200g	20	200
$ZnSO_4$	4kg	400	4000
Imidachloprid	100ml	670	6700
Profenophos	500ml	500	5000
Emamectin Benzoate	100g	550	5500
	Total	4,160	41,600

Observations to be recorded:

- Yield parameters, Yield and economics

Team Members: Scientist – Agron, PP, SS&H

Implementation

No. of Demonstrations: 10

Area: 4 ha

Cluster: Nelamakanahalli and Hullenahalli

FLD -5: Integrated crop management for capsicum production

(Contd.)

Dist. Area	Dist. Avg. Yield	Yield gap
535 ha	13.27 (t/ha)	11.73 t/ha (33%)

Problem	Technology to be demonstrated	Sources	Cluster	No. of Demos
Improper nutrient schedule, and pest and disease management	➢ FYM @ 25t/ha + Trichoderma @ 2kg /ha + Pseudomonas @ 2 kg /ha ➢ NPK 150:75:50 kg/ha (50% N & 100% P, K as basal dose, remaining 50%N @ 30 DAP) ➢ Vegetable special 5 g/ L ➢ Sowing at spacing 60 x 45 cm ➢ Pongamia/ Neem soap 10gm/l for thrips, mites and aphids ➢ Yellow sticky traps 25 No./ha ➢ Blue sticky traps 20 No./ha and need based pp chemicals	IIHR, UASB	Hullenahalli	10

Team Members: Scientist – SS&AC, Horti, PP, Agron, Hsc, PA, SS&H

Critical inputs

Sl. No.	Inputs	Qty / Demo	Cost (Rs.) / demo	Total cost (Rs.) / 10 demo.
1.	Trichoderma	2 Kg	200	2000
2.	Pseudomonas	2 kg	200	2000
3.	Yellow sticky trap	10 Nos	450	4500
4.	Blue sticky trap	5 Nos	250	2500
5.	Pongamia/Neem soap	2 kg	700	7000
6.	Vegetable special	2 kg	400	4000
7.	Imidachloprid	100ml	300	3000
8.	Soil testing	-	300	3000
Total			2800	28,000

Observation: Growth and Yield, soil nutrient status, disease and pest incidence Economics

Results

Parameters	Demo Plot	Check Plot
Plant height (cm)	71.17	68.47
No. of fruits/Plant	54.80	42.60
Total No. fruits/ plant	10-12	7-8
Incidence of thrips (%)	6.0	11.4
Yield (q/ha)	362.60	297.10
% increase	22.05	-
Economics		
Gross cost (Rs./ha)	116800	124800
Gross return (Rs./ha)	507696	415982
Net return (Rs./ha)	390896	291182
B:C Ratio	4.30	3.3

Soil Properties	
Parameters	**Initial**
pH (1:2.5)	6.93
EC (dS/m)	0.15
OC (%)	0.45
Avail N (kg/ha)	266.20
Avail.P_2O_5 (kg/ha)	42.42
Avail.K_2O (kg/ha)	215.44

Spraying of vegetable special

Capsicum at fruiting stage

Field Day

FLD-6 : Integrated nutrient management in papaya

(Contd.)

Dist. Area	Dist. Avg. Yield	Yield gap
586 ha	61.38 (t/ha)	13.62 t/ha (22%)

Problem	Technology to be demonstrated	Sources	Cluster	No. of Demos
Improper nutrient schedule, lack of awareness on use of micronutrients	➢ FYM @ 10 kg per plant + Trichoderma 2kg and Pseudomonas 2kg ➢ NPK 250:250:500 g per plant (Entire N and K divide in 6 split application once in 2 months commencing from 2nd month of planting) ➢ Zinc sulphate 0.5% and Boron 0.1% ➢ Sowing at spacing 1.8 x 1.8 m ➢ AMC 10ml per litre	IIHR	Hullenahalli/ Brahmadeva rahalli	05

Sl. No.	Inputs	Qty / demo	Cost / demo (Rs)	Cost / 5 demo (Rs)
1	Trichoderma	2 kg	200	1000
2	Pseudomonas	2 kg	200	1000
2	AMC liquid	5 L	1750	8750
3	Boron	500g	300	1500
4	Zinc sulphate	5 kg	400	2000
5	Soil testing	-	300	1500
Total			3150	15,750

Fruiting stage

Parameters	Demo Plot	Check Plot
Plant height (cm)	185.5	178.4
No. of fruits/Plant (till date)	32	26

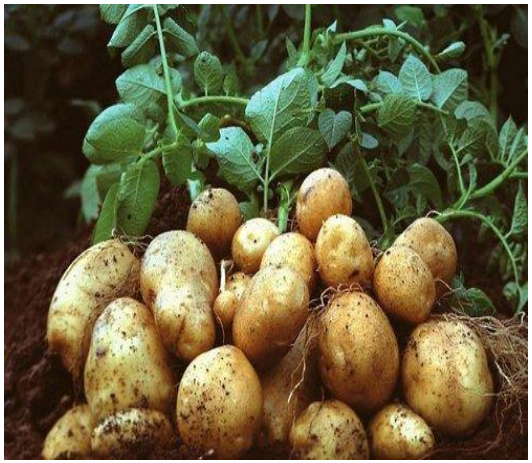
FLD-7 : Integrated crop management in potato

NEW

Dist. Area	Dist. Avg. Yield	Yield gap
250 ha	15.5 (t/ha)	4.5 t/ha (22.5%)

Problem	Technology to be demonstrated	Sources	Cluster	No. of Demos
Improper nutrient schedule, lack of awareness on better varieties available and use of micronutrients	➢ Introduction of variety Kufri Jyothi ➢ FYM @ 20-25 tons/ha+ Trichoderma 2kg and Pseudomonas 2kg ➢ NPK 120:100:120 kg per ha (60:100:120kg as basal dose and topdressing 60kg N at 30 days after planting) ➢ Sowing at spacing 60cm x 20cm ➢ Vegetable special ➢ Need based pp chemicals	IIHR	Brahmadev arahalli	05

Sl. No.	Inputs	Qty / Demo	Cost (Rs.) / demo	Total cost (Rs.) / 5 demo.
1.	Potato kufri jyothi	500 kgs	10000	50000
1.	Trichoderma	2 Kg	200	1000
2.	Pseudomonas	2 kg	200	1000
5.	Pongamia/Neem soap	2 kg	700	3500
6.	Vegetable special	2 kg	400	2000
Total			11500	57500



FLD-8 : Nutrient Management in paddy for yield enhancement under salt affected soils

(Contd.)

Area: 89,285 Ha

Problem	Technology to be demonstrated	Sources	Cluster	No. of Demos
Low yield and quality, Lack of awareness on balanced nutrient management in salt affected condition, Boron deficiency in soil	❖ Rec. FYM 10 t/ha, Rec. dose of fertilizer (RDF): 100:50:50 NPK kg/ha. + $ZnSo_4$ 20 kg/ha (25% higher application of Rec. fertilizers under salt affected) ❖ Advisory green manuring ❖ Foliar Spray of 0.2% Boron at flowering	UAS (B) and IIRR, Hyderabad	Hullenahalli	10

Observation: Growth and Yield, soil nutrient status, Soil chemical characters, Economics

Team Members: Scientist – SS & AC, Agron, PP, SS & H

DFI concept – Productivity Enhancement

Critical Inputs				
Sl. No.	Inputs	Qty / Demo	Cost (Rs.) / demo	Total cost (Rs.) / 10 demo.
1.	Gangavathi sona seeds	25 Kg	900	9000
2.	Solubor	1 Kg	400	4000
3.	Zinc sulphate	10 kg	900	9000
4.	Green manure (Dhaincha)	20 kg	1200	12000
5.	Soil testing	1	300	3000
Total			3700	37,000

Results

Parameters	Demo Plot	Check Plot
Plant height (cm)	75.04	63.42
No. of Productive tillers/Plant	15.30	11.50
No. of filled grains/panicle	210.80	141.50
Grain Yield (q/ha)	41.88	33.69
% increase	24.31	-
Economics		
Gross cost (Rs./ha)	4552	44732
Gross return (Rs./ha)	67008	53910
Net return (Rs./ha)	21456	9178
B:C Ratio	1.47	1.20

Soil properties					
Parameters	Initial	Post harvest	Parameters	Initial	Post harvest
pH (1:2.5)	8.47	8.39	DTPA Zn (ppm)	0.29	0.56
EC (dS/m)	1.40	0.841	Boron (ppm)	0.32	0.42
OC (%)	0.62	0.65	Exch.Ca	7.60	6.80
Avail N (kg/ha)	332.23	308.20	Exch.Mg	10.72	8.20
Avail.P_2O_5 (kg/ha)	28.08	30.45	Exch.Na	1.49	1.10
Avail.K_2O (kg/ha)	134.31	158.78	ESP (%)	13.60	13.67

FLD-9: Demonstration of Tomato Hyb. Arka Abhed

(Contd.)

Problem	Technology to be demonstrated	Sources	Cluster
Severe pest and disease incidence, indiscriminate use of PP chemicals	• Hybrid Seed Arka Abhed • Use of bio-agent enriched FYM • Growing marigold as trap crop • Spray of vegetable special • Use of sticky traps, • Use of Pheromone traps • Use of Neem/ Pongamia soap & Need based pp chemicals	UHS, Bagalkot IIHR, Bengaluru	Hullenahalli Brahmadevarahalli

Sl. No.	Inputs	Qty / demo	Cost / demo (Rs)	Cost / 5 demo (Rs)
1	Arka Abhed seeds	30 g	900	4500
2	*Trichoderma viride*	2 kg	400	2000
3	*Pseudomonas fluorescens*	2 kg	400	2000
4	Vegetable special	2 kg	400	2000
5	WOTA T traps	4 + 4 no.	500	2500
6	Y/B sticky traps	20 no.	1000	5000
7	Neem/Pongamia soap	4 kg	1120	5600
8	Mancozeb	2.0 kg	500	2500
		Total	5220	26,100

Team Members:
Scientist –PP, Horti, SS & H, SS & AC

Observation
% pest incidence
% disease incidence
Yield, B:C

Results

Particulars	Demo	Check
Plant height (cm)	146.2	105.44
Fruit weight (g)	93.06	87.04
Pinworm incidence on leaves (%)	4.12	26.88
Pinworm incidence on fruits (%)	4.74	13.24
Late blight (%)	0	15.72
Yield (t/ha.)	67.32	58.6
Percent increase	14.88	
Economics		
Total cost (Rs./ha)	163200	190400
Gross income (Rs./ha)	673200	586000
Net return (Rs./ha)	510000	395600
B:C Ratio	4.13	3.08

Farmers feedback: Disease incidence, pesticides usage and cost of cultivation was reduced

FLD-10: Integrated Crop Management in Cabbage

(Contd.)

Problem	Technology to be demonstrated	Sources
DBM (>42%) infestation, indiscriminate use of pesticide	➢ Intercropping with Mustard (trap crop) (25:2), Installation of WOTA-T traps (DBM traps) ➢ Use of Sticky traps, Spray of Bt (1ml/l), Neem Soap (5g/l) ➢ Entomopathogenic fungi (*Beauveria bassiana*) (0.2%), Emamectin benzoate 5SG (0.05%), Chlorfenapyr 10SC (0.1%), Spinosad 2.5SC (0.15)%, veg.spl ➢ Spraying of CoC + Streptocycline	IIHR, Bangalore

Critical Inputs		
Particulars	Qty./demo	Cost/ Demo (Rs.)
Mustard seeds	0.5 kg	100
DBM Traps	5 No	400
Sticky traps	10 No	600
Neem soap	2 kg	560
Bt	1 lt	660
Beauveria bassiana	1 lt	1250
Vegetable special	2 kg	400
Spinosad (microbial)	75ml	1600
	Total	5570
	Cost for 5 demos	27850

Crop	Cabbage
Var.	Local
Area(ha.)	1
No. of demos	5
Village	Brahmadevarahalli

Observation: DBM incidence (%), Yield (t/ha), B:C ratio

Team Members: Scientist –PP, Horti, SS & H, SS & AC

Results

Particulars	Demo.	Check
Head weight (kg)	1.47	1.38
DBM incidence (%) (30 DAP)	9.33	17.33
DBM incidence (%) (60 DAP)	13.06	25.60
Yield (q/ha.)	35.40	30.72
Percent increase	15.23	
Economics		
Total cost (Rs./ha)	84,690	92,690
Gross income (Rs./ha)	2,47,800	184320
Net return (Rs./ha)	1,63,110	91630
B:C Ratio	2.93	1.99

Pheromone traps

Farmers feedback: Usage of pesticides and cost of cultivation was reduced.

FLD-11: Integrated crop management in Chilli

NEW

Problem	Technology to be demonstrated	Sources	Cluster
Incidence of thrips and mite, murda complex, lack of awareness regarding resistant/ tolerant variety	• Sucking pest and virus tolerant hybrid Arka Meghana/ Arka Kyati • Grow boarder crop of maize • Spray of vegetable special • Before flowering stage spray 19:19:19 (5 gram/lit) • Use of sticky traps, • Use of Neem/ Pongamia soap & Need based pp chemicals	IIHR, Bengaluru	Hullenahalli Brarmadevarahalli

Sl. No.	Inputs	Qty / demo	Cost / demo (Rs)	Cost / 5 demo (Rs)
1	Arka Meghana/ kyati seeds	40 g	800	4000
2	*Trichoderma viride*	2 kg	200	800
3	*Pseudomonas fluorescens*	2 Kg	200	800
4	Vegetable special	2 kg	400	2000
6	19:19:19	1 kg	300	1500
7	Y/B sticky traps	20 no.	1000	5000
8	Neem/Pongamia soap	4 kg	1120	5600
9	Mancozeb	2.0 kg	500	2500
Total			4520	22600

Team Members:
Scientist –PP, Horti, SS & H, SS & AC

Observation
% pest incidence
% disease incidence
Yield, B:C

FLD-12: Integrated Crop Management in Banana

(Contd.)

Problem	Technology to be demonstrated	Sources
Improper nutrient management, Lack of knowledge on bio-agents and ICM practices	▪ Arka Microbial Consortia ▪ Banana Special spray ▪ Bunch feeding (2.5g urea + 2.5 g sulphate of potash dissolved in 100 ml water + 500 g fresh cow dung) ▪ Spraying of propiconazole (1ml/l)	IIHR, Bangalore

Crop	Banana
Var.	Local
Area (ha.)	2
No. of demos	10
Village	Hullenahalli

Sl. No.	Inputs	Qty / demo.	Cost (Rs.) / demo	Total cost (Rs.) / 10 demo.
1.	Arka Microbial Consortia	5lit	1,500	15,000
2.	Trichoderma	4 Kg	400	4,000
3.	Pseudomonas	4 kg	400	4,000
4.	Banana special	6 kg	1200	12,000
5.	Propiconazole	250ml	460	4600
6.	Carbendazim	500gm	500	5000
Total			4,460	44,600

Observation:
Bunch weight, No. of fingers, Yield and Economics, Sigatoka and panama wilt incidence

Team Members: Scientist –Horticulture, PP, SS, SS & H

Area: 3055 ha;
Production: 61843 MT

Result

Parameters		Demo plot	Check plot
Bunch weight (kg)		17.30	13.70
Yield (t/ha)		36.22	29.56
% Increase		22.53	-
Sigatoka leaf spot incidence (%)	3 MAP	4.80	8.00
	6 MAP	14.40	26.40
	9 MAP	12.80	34.40
Panama wilt incidence (%)	3 MAP	0.00	1.80
	6 MAP	1.17	5.33
	9 MAP	2.73	9.17
Economics			
Total cost (Rs./ha)		2,21,900	2,59,800
Gross income (Rs./ha)		10,86,600	8,86,800
Net return (Rs./ha)		8,64,700	6,27,000
B:C Ratio		4.90	3.41

Farmers Feedback: Effective disease and pest control, uniform size development of fingers through bunch feeding and high yield.

FLD-13: Integrated Crop Management in Ridge Gourd

NEW

Problem	Technology to be demonstrated	Sources
▪ Lack of awareness about high yielding varieties ▪ High incidence of fruit fly	▪ High yielding variety: Arka Prasan ▪ Seed treatment with carbendazim 4g/kg of seeds ▪ Vegetable special 3g/l ▪ Spray of neem soap (1%)	IIHR

Crop	Ridge Gourd
Var.	Arka Prasan
Area (ha)	1ha
No. of demo	5
Village	Brahmadevarahalli

Area: 121.94 ha;
Production: 2432 MT

Sl. No.	Inputs	Qty / Demo	Cost (Rs.) / demo	Total cost (Rs.) / 5 demo.
1.	Seeds	1kg	1000	5000
2.	Vegetable special	2 kg	200	1000
3.	Carbendazim	1 kg	900	4500
4.	Neem soap	1 kg	300	1500
5.	Thiomethoxam	100g	450	2250
6.	Fruit fly trap +lure	3 +3	750	3750
		Total	3,400	18,000

Observation: Yield, Economics

Team Members: Scientist –Horti., Plant Pathology

FLD-14: Integrated Crop Management in ginger

NEW

Problem	Technology to be demonstrated	Sources
High incidence of root rot and leaf spot	▪ Neem cake application ▪ Seed treatment with Mancozeb 3g/lit ▪ Ginger special 5g/l ▪ *Trichoderma* and *Pseudomonas* application ▪ Soil drench with Metalaxyl-Mancozeb (0.125%)	IISR, Kozhikode

Area: 235.63 ha;
Production: 2356 MT

Crop	Ginger
Var.	Local
Area (ha)	1ha
No. of demo	5
Village	Hullenahalli

Team Members:
Scientist –Horti., Plant Pathology

Observation:
Yield, Economics, root rot incidence

Sl. No.	Inputs	Qty / Demo	Cost (Rs.) / demo	Total cost (Rs.) / 5 demo.
1.	*Trichoderma*	5 kg	500	2,500
2.	*Pseudomonas*	5 kg	500	2,500
3.	Neem cake	50kg	1500	7,500
4.	Ginger rich	4 kg	1200	6,000
5.	Mancozeb	2kg	1000	5,000
6.	Metalaxyl +Mancozeb	2kg	4560	22,800
		Total	9,260	46,300

FLD 15 : Popularization of improved silkworm hybrid FC-1 X FC-2

(Contd.)

Cocoon Production	Dist. Avg. Yield	Yield gap
19,043 MT	75 kg /100 DFLs	10 kg /100 DFLs

Problem	Technology to be demonstrated	Sources	Cluster	No. of Trials
Lack of awareness on Improved hybrids, Low yield and poor quality	• Silkworm Bivoltine double hybrid FC-1 X FC-2	CSRTI, Mysore	Nelamakanalli	10

Sl. No.	Inputs	Qty / demo	Cost / demo (Rs)	Cost / 10 demo (Rs)
1.	Bivoltine double hybrid FC-1 X FC-2	100 DFLs	3,500	35,000/-
			Total	35,000/-

Observation

Matured worm wt, Cocoon weight, shell ratio, Cocoon yield / 100 DFLs

Team Members:

Scientists (Seri.) & Prog. Asst.

DFI concept – Productivity Enhancement

RESULTS

Parameters	Demo FC-1 X FC-2	
Vth Instar Larval Weight	5.571	5.012
Cocoon weight (g)	2.094	1.914
Shell weight (g)	0.458	0.409
Shell ratio (%)	21.88	21.02
Cocoon Yield (kg / 100 DFLs)	88.77	78.08
% Increase	13.698	
Economics		
Gross return (Rs./100DFLs)	44387	31232
Gross cost (Rs./100DFLs)	15979	14054
Net Return(Rs./100DFLs)	28408	17128
B:C Ratio	2.778	2.222

Cocoon Production	PM X CSR2	FC1 X FC2	Total
2019-20	15939	1306	17245
2020-21	17373	1670	19043
% Increase	8.99%	27.87	

Farmers Feedback: by rearing of FC1 x FC2 we can get high quality cocoons as well as income

FLD -16 : Integrated Nutrient Management in Mulberry

(Contd.)

Mulberry Area	Dist. Avg. Yield
16,884 MT	45 MT / ha/ Year

Problem	Technology to be demonstrated	Sources	Cluster	No. of Demos
Poor Quality and low Yield of mulberry leads to low yield and poor quality cocoons	7ml of Poshan/lt Spraying on Mulberry leaves after 25-30 days after pruning	CSRTI, Mysore	Madegowdana koppalu	10

Sl. No.	Inputs	Qty /demo	Cost (Rs.) / demo	Total (Rs.) / 10 demo
1.	Poshan	1Lt	300	3000/-
2.	Soil test	1	200	2000/-
Total				5,000/-

Parameters:
No. of leaves / plant, leaf yield / plant & Ha, Cocoon yield/100dfls

Team Members:
Scientists (Seri.) & Prog. Asst.

DFI concept – Productivity Enhancement

RESULTS

Parameters	Demo	Check
Plant height (cm)	173.7	166.8
No. of Leaves / Plant	164.7	154.1
Leaf yield /plant (kg)	0.818	0.704
Leaf yield / crop / ha	11361	9774
% increase	16.237	
Cocoon Yield (kg / 100 DFLs)	89.43	80.15
% increase	8.307	
Economics		
Gross return (Rs./100DFLs)	46502	39274
Gross cost (Rs./100DFLs)	16097	16030
Net Return(Rs./100DFLs)	30405	23244
B:C Ratio	2.889	2.450

Farmers Feedback: by spraying Poshan will get quality leaves as well leaf yield

FLD –17: Integrated management of leaf roller in Mulberry

NEW

Mulberry Area	Dist. Avg. Yield	Yield gap
16,884 MT	45 MT / ha/ Year	45 MT / ha/ Year

Problem	Technology to be demonstrated	Sources	Cluster	No. of Demos
Low mulberry yield due to stunted growth due to apical portion affects Alternate to chemical (Nuvan) as it is being banned To assess bilogical means of management	Spray of neem oil @ 1 ml/l (10000 PPM) and Use of Trichogramma chilonis	UAS, B & CSRTI, Mysore	Nelamakanalli	10

Parameters:
% of incidence
No. of leaves / plant,
leaf yield / plant & Ha,
Cocoon yield/100dfls

Critical inputs	Quantity	Amount (Rs)
Neem Oil	1.50 liters	6400
Trichogramma chilonis cards	30 nos.	1500
	Total	7,900

Team Members:
Scientists (Seri.) &
Prog. Asst.

FLD-18: Demonstration of value added products from Amla

NEW

Prioritized problem: Lack of knowledge on value addition, Low price during glut and direct selling without processing and value addition

Technology to be demonstrated:
Demonstration of Amla jam, supari & candy, Labeling, Packing, Branding, Licensing & Marketing

Implementation
No. of demos: 1 SHG
Village: Nagamangala,
Source: UHS-B

Critical Inputs		
Particulars	**Qty.**	**Cost (Rs.)**
Ingredients for Demo	3 products	1000
Packaging materials	3 products	4000
Labels	3 products	3000
Hygienic practices (apron, gloves – lumpsum)	-	1000
Weighing Balance	1	4000
Sealing machine	1	3000
Cost of the demo		16000
Total Cost; Rs.8000/-		

Parameters
Production (Kg), Cost Economics (Rs.)

Team Members:
Scientist (Home Science) & and Horticulture

FLD –19: Urban Terrace Gardening

NEW

Prioritized problem: Nutrition insecurity, Malnutrition, Low consumption & timely non availability of organic fresh vegetables, Improper utilization of household kitchen waste

Technology to be demonstrated:
Establishment of organic terrace garden

Enterprises: Terrace Gardening
Unit: 5
Place: Mandya urban

Sl. No.	Inputs	Qty / demo	Cost (Rs.)	Total
1	Vegetable seeds	1 kit	800	4,000/-
2	Planting materials	10	1200	6,000/-
Total				10,000-00

Parameters:
Nutritional status/ knowledge
Vegetable Yield , B:C Ratio

Team Members:
Scientists: Home Science, Horticulture and Agril.Extension

Trainings

Training for farmers / farmwomen

Sl. No.	Title	No. of participants
1	Integrated pest and disease management in Paddy	25
2	Improved cultivation practices in pulses	50
3	Integrated Farming System	25
4	ICM practices in Banana	25
5	ICM practices in vegetables	50
6	Integrated crop management in drumstick	25
7	Cultivation practices in forage crops	25
8	Utilization of underutilized foods towards achieving nutrition security	25
9	Integrated Crop Management in tomato	25
10	Integrated pest and disease management in Cabbage	25
11	Integrated Crop Management in finger millet	
12	Coconut pest and disease management	25
13	Importance of soil, soil testing and soil test based fertilizer recommendation	25
14	Agriculture waste recycling – compost culture use	25

Sl. No.	Title	No. of participants
15	Nutrient management in fruits and vegetables	25
16	Entrepreneurship development through processing and value addition to millets	25
17	Processing and value addition to horticulture crops	25
18	Management of leaf roller	25
19	Rearing of improved silkworm hybrid FC-1 x FC2	25
20	Demonstration on phytoecdysteroid for synchronized maturation of silkworm	25
21	Intercrops in wider spaced mulberry garden	25

Training for Rural Youth

Sl. No.	Title	No. of participants
1	Kitchen and terrace gardening for nutritional security	25
2	Economic empowerment through micro enterprises	25
3	Sericulture waste recycling – compost culture use	25
4	Demonstration of minor millets value addition	25
5	Processing and preservation of fruits and vegetables	25
6	Cocoon bio crafts for income generation of rural women	25
7	Mushroom cultivation and its value addition	25

Training for Extension Functionaries

Sl. No.	Title	No. of participants
1	Nutrition and health education to combat malnutrition	30
2	Food, health and nutrition for preschool children	30
3	Low cost Nutri rich foods for pre schoolers	30
4	Food, health and care during pregnant and lactating mothers	30
5	Improved Mulberry cultivation and Silkworm rearing practices	30
6	Nutrient deficiencies, management and soil test based fertilizer recommendation	30

Budget Utilization

Details of budget utilization 2020 – 21 (up to 31 March 2020)

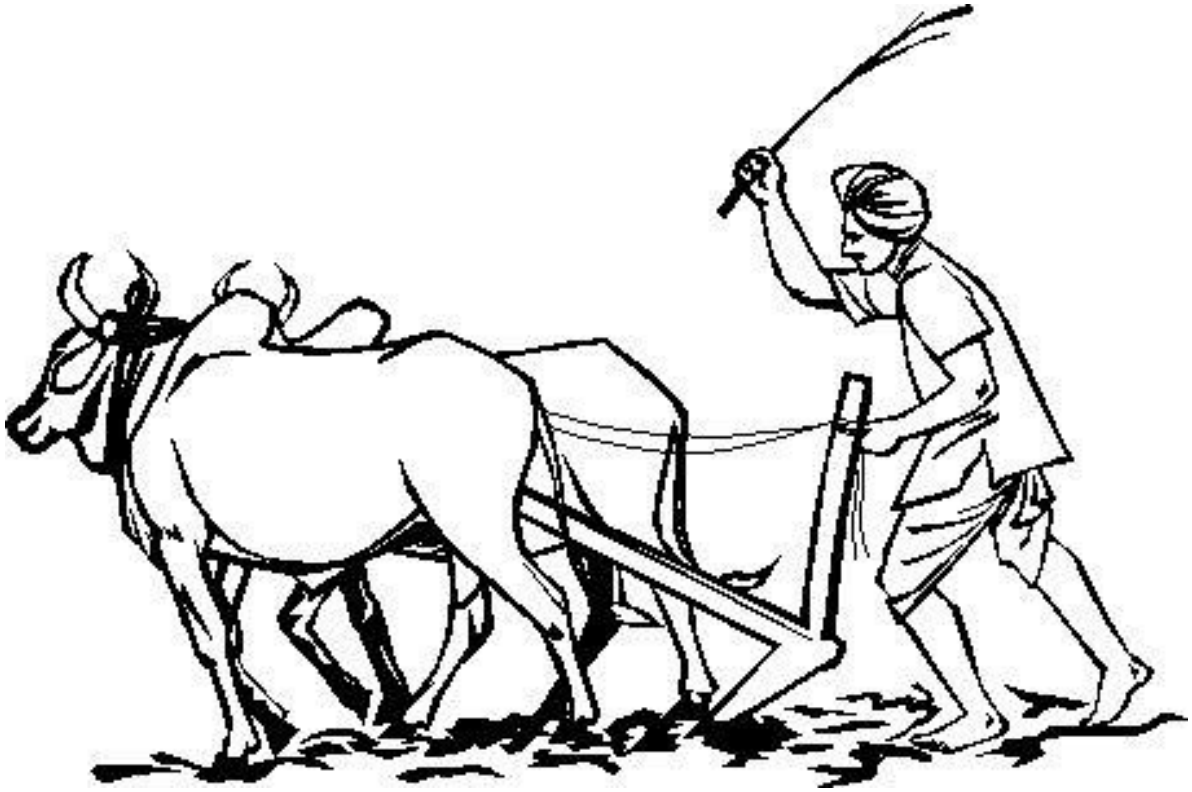
S. No.	Particulars	Budget Estimation (Rs.)	Released (Rs.)	Expenditure (Rs.)
A	Recurring Contingencies			
1.	Pay & Allowances	10550000	10550000	9457612
2.	Traveling allowances	175000	175000	183974
3.	Contingencies			
a	Stationery, telephone, postage and other expenditure on office running	235000	235000	232172
b	POL, repair of vehicles, tractor and equipments	250000	250000	249590
c	Meals/refreshment for trainees	95000	95000	94930
d	Training material	35000	35000	33055
e	Frontline demonstration	327000	327000	300791
f	On farm testing	40000	40000	33995
g	Integrated Farming System (IFS)	-	-	-
h	Training of Extension Functionaries	25000	25000	24915
I	Extension Activities	25000	25000	23523
J	Farmers Field School	-	-	-

K	EDP	14000	14000	13564
L	Soil & Water Testing & Issue of Soil Health Cards	30000	30000	29964
M	Maintenance of building	50000	50000	49943
N	Nutrition garden	25000	25000	24990
O	Conference on Extension/Farmers Science Congress			
P	Library	10000	10000	9896
	Total Recurring			
B. Non-Recurring Contingencies				
1	Works	-	-	-
2	Equipments including SWTL & Furniture	-	-	-
3	Vehicle (Four wheeler/Two wheeler, please specify)	-	-	-
4	Library		-	-
	TOTAL (B)	-	-	-
	C. REVOLVING FUND	-	-	-
	GRAND TOTAL (A+B+C)	1,18,86,000	1,18,86,000	1,07,62,914

Details of Budget Estimate (2021-22)

S. No.	Particulars	BE proposed (Rs.)
A	Recurring Contingencies	
1	Pay & Allowances	12500000
2	Traveling allowances	250000
3	Contingencies	
a	Stationery, telephone, postage and other expenditure on office running expenditures	250000
b	POL, repair of vehicles, tractor and equipments	250000
c	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	125000
d	Training material	40000
e	Frontline demonstration	400000
f	On farm testing	100000
g	Integrated Farming System	0
h	Training of extension functionaries	40000
i	Extension Activities	40000
j	FFS	0
k	EDP (1 No.) / Innovative	25000

S. No.	Particulars	BE proposed (Rs.)
k	***Soil & Water testing & issue of soil health cards***	**40000**
l	***Maintenance of buildings***	**100000**
m	***Library***	**20000**
	Total Recurring	**14180000**
B	**Non-Recurring Contingencies**	
1	**Works**	**-**
2	**Equipments including SWTL & Furniture**	**-**
3	**Vehicle** (Four wheeler/Two wheeler, please specify): 1. **Four wheeler-Tractor** **2. Two wheeler**	 **850000** **100000**
4	**Library** (Purchase of assets like books & journals)	**-**
	TOTAL Non-Recurring Contingencies	**950000**
C	**REVOLVING FUND**	**-**
	GRAND TOTAL (A+B+C)	**15130000**



Thank you