

From Field to Future:

Unveiling the Annual progress of ATARI Hyderabad



Annual Zonal Workshop
2023

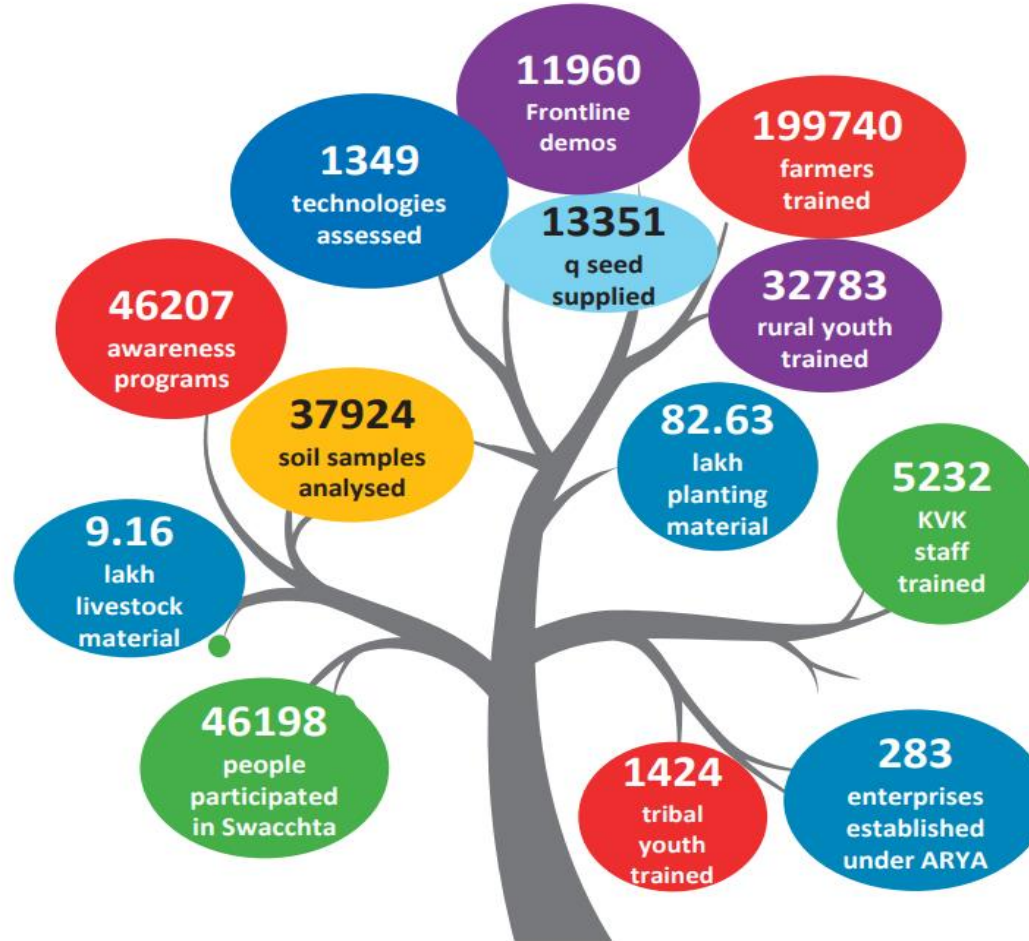


Shaik N Meera
Director
ICAR- ATARI, Hyderabad

2023 August **17**

State	No. of KVKs					Total KVKs
	SAU	NGO	ICAR	DU	SDA	
Andhra Pradesh	18	4	2	-	-	24 (23)
Telangana	10	5	1	-	-	16 (16)
Tamil Nadu	19	11	-	2	-	32 (31)
Puducherry	-	-	-	-	3	3 (2)
TOTAL	47	20	3	2	3	75 (72)





ATARI - Hyderabad

... Impact Acceleration through Tehnology Application



Extending Horizons: Projects beyond Mandated Activities



S.No	Name of the project	No. of KVKs / SAUs / ICAR institutes
1	NICRA (CRIDA)	5
2	ARYA	10
3	CFLD pulses (NFSM)	60
4	CFLD oil seeds (NFSM)	43
5	Seed hubs (NFSM)	12
6	NEMA (Climate resilience (PI) , pulses (Co-PI), aspirational districts (Co-PI), ARYA (Co-PI), DFI (Co-PI), and Gender and nutrition (Co-PI))	55
7	Development Action Plan for Schedule Tribes (DAPST)	16
8	Development Action Plan for Schedule Castes (DAPSC)	71
9	Farmers FIRST	4 ICAR institutes + 1 SAU (TANUVAS)
10	DAMU (IMD)	28
11	Outscaling of natural farming through KVKs	44
12	Agricultural Drones Project	10 KVK, 9 ICAR institutes and 2 SAUs
13	Skill training programmes of ASCI	8
14	Central Sector scheme on formation of 10000 FPOs	4 KVKs and 2 ICAR institutes
15	Capacity building on profitable life stock farming and management (Ministry of fisheries, AH and Dairying)	25



S. No	State	Funds mobilized (Lakhs)	Names of Sponsors
1.	AP	621.64	ATMA, WDC-PMKSY, PR & RD, GoAP, National medicinal plants board, NFDB, DCCD, NCIPM, NABARD, NAARM, SAMETI, NCDC, MANAGE, DCO, CDB, ICAR-IIMR, AP Food processing society.
2.	TS	122.61	NIPHM, Dept. Of Agriculture, Govt. of Telangana, NIPHM, ATMA, NABARD, ICAR-NRCM, ICAR-IIHR, ICAR-NAARM, ITDA, IRCTC, Natco Pharma, Brahmos Aerospace
3.	TN	1091.80	DST, ATMA, MANAGE, NABARD, TNRTP, ICAR-NBAIR, CDB, ICAR-IIRR, IMTI, NABKISAN, TNSDPC, TNIAMP, DCCD, ICAR-NRCB, ICAR-NIVEDI, ICAR-NAARM, THADCO, JSS, TN IAMWARM- World Bank
4.	PDU	7.16	Coconut Development Board , NABARD
Total of the zone		1843.21	



State	Receipts during 21-22 Lakhs	Expenditure during 21-22 Lakhs	Balance as on 31- 03-22 Lakhs
Tamilnadu	1002.19	879.47	562.32
Andhra Pradesh	727.09	614.07	576.64
Telangana	604.86	471.10	552.60
Pondicherry	20.46	15.65	16.08
ATARI-X	2354.60	1980.28	1707.63



Enterprise	No. of Trainings	No. of Youth trained	No of Youth established enterprises	No. of enterprises
Apiary	8	182	53	19
Bio Inputs	2	112	7	1
Dairy	2	35	8	4
Fishery	5	50	5	5
Goat and sheep	2	57	21	3
IFS	4	80	63	63
Mushroom	6	232	30	11
Nursery	8	221	33	15
Poultry	18	175	152	113
Value Addition	21	406	173	22
Vermicompost	16	323	67	27
Total	92	1873	612	283



Honey enterprise - KVK Kanyakumari



Fruit processing enterprise
KVK West Godavari (VR Gudem)



Backyard poultry - KVK Sivagangai

KVK	Erode
Name of Youth	Mr.V. Uthirakannan
Enterprise	Banana fibre
Products	Bags, file, folder, water cane pouch, yoga mat, handicraft
Yield	10 tons / Year
Gross income	Rs.20,00,000/ year
Net income	Rs.13,00,000/ year



KVK	Nalgonda Kampasagar
No. of youth	Group of 5
Enterprise	Vegetable Nursery
Yield	16 lakh/year
Gross income	Rs. 21,25,000/year
Net income	Rs. 14,40,000/year



KVK	West Godavari (VR Gudem)
Name of Youth	Eepicharla Balaji
Enterprise	Apiary
Size	70 beehive boxes
Yield	1750 kg
Gross income	Rs.5,25,000
Net income	Rs.3,50,000



KVK	Kadapa Utukur
Name	P. Sreenath Reddy
Enterprise	Mushroom Farm
Yield	2400 kgs / year
Gross income	Rs. 4,80,000/ year
Net income	Rs. 3,12,000/ year



S.Gokulakannan (Dharmapuri)	
Semi intensive goat rearing	
45 kids/year	
NI: Rs. 283410/year	



Caleb, Y (Kanyakumari)
Bee keeping
450 bee Colonies
NI: Rs. 4,25,000/year



Allen J L Jose
Coconut bakery
Yld: 2500 kg/year
NI:Rs.700,000/yr





State	No. of KVKs associated	No. of FPOs supported by KVKs	Commodities dealt by the FPOs
Andhra Pradesh	21	126	Groundnut, Cashew, Paddy, Mango, Turmeric, Banana, Foxtail Millet, Redgram, Fruits, Millet's processing, Pulses, Tamarind, Tomato, Maize, Rubber, Chilli, Jowar, Black gram, Vegetables, Coconut, Green gram, Bajra, Bengal gram, Acid Lime, Millets, Minor millets, Black pepper, Tapioca, Mushroom, Sweet Orange, Tuberose, Jaggery, Finger Millet, Jasmine, Fish, Chillies, Organic Farming, Elephant Footyam, Poultry, Sheep
Telangana	15	62	Red gram, Cotton, Ground nut, Paddy, Chilli, Turmeric, Maize, Cashew, Jowar, Cow Pea, Vegetables, Mango, Soybean, Sorghum, Pulses, Oil seed, Sunflower, Bengal gram
Tamil Nadu	28	175	Coconut, Paddy, Millets, Pulses, Ragi, Mango, Chilli, Grapes, Seed production in pulses and Oilseed, Seeds, Groundnut, Maize, Drumstick, Vegetables, Medicinal Plants, Cotton, Sugarcane, Betelvine, Fertilizers, Banana, Fisheries, Small onion, Flowers, Value addition, Sesamum Animal feed, Cashew, Rubber, Livestock, Honey, Acid lime, Animal feed, Agri inputs and Forest tree Milk Production, Banana and value added products, Moringa, Minor millets, Gingelly and Value added products, Ground nut oil, Coconut Oil, Potato, Bitter gourd, Tamarind, Jasmine, Honey, Banana Chips, Banana Powder, Sugar, vermicompost/Panchakavya, Cattle feed, Gunny bags
Puducherry	1	4	Sesame, Groundnut, Paddy
Zone total	65	367	

KVKs as CBBOs

6 CBBOs	
4 KVKs	KVK East Godavari (Kalavacharla)
	KVK Kurnool (Banavasi)
	KVK Karimnagar (Jammikunta)
	KVK Medak (Tuniki)
2 ICAR Inst.	ICAR -IIMR, Hyderabad
	ICAR-IIOR, Hyderabad

12 FPOs

7151 - Share-holders
Rs. 72.92 lakhs - Equity Amount
11 FPOs - Licence for marketing of inputs,
9 FPOs – Registered on e-Nam

Speciality products

Chilli, turmeric, maize, mango, organic rice vegetables, sunflower honey

- 8 climatically vulnerable districts identified in the new phase of NICRA from 2021 (3 AP, 1 Telangana, 3 Tamilnadu and 1 Puducherry (Karaikal)
- Technology package customized for Farming System Typologies

NRM (Ex-situ & in-situ)		Crop Production		Livestock and fisheries	Institutional Interventions (CHC, seed bank, fodder bank)	Capacity Building activities	Extension activities
Area (ha.)	No. of farmers	Area (ha.)	No. of farmers	No. of farmers	No. of farmers	No. of farmers	No. of farmers
333.68	1396	1176.9	2063	683	457	2534	3776



Spread of Climate Resilient Crop Varieties among NICRA clusters in Zone X

Feedback: Scaling up – Poor, No new technologies, Poor Feedback Loops, Lack of integrated approach

S.No	Name of the KVK	Crop	Variety	Extent of adoption (ha) - base line in NICRA village	Spread in the district (ha) – (2018-19)	Productivity gain (%)
1	Chittoor (RASS), A.P	Groundnut	Dharani (ANGRAU)	10	5000	19.56
2	Kurnool (Y), A.P	Redgram	ICPL-87119 (ICRISAT)	32.8	1500	32.05
		Foxtail millet	SIA-3088 (ANGRAU)	26	1200	43.71
3	Srikakulam, A.P	Paddy	MTU-1061(ANGRAU)	134	49400	43.08
4	West Godavari (Undi), A.P	Paddy	MTU 1061 (ANGRAU)	150	27583	25.08
5	Khammam (Wyra), Telangana	Paddy	WGL-44 (PJ TSAU)	96	481	8.21
		Red gram	LRG-41 (ANGRAU)	125	436	28.83
6	Thiruvavarur, Tamil Nadu	Paddy	CR 1009 sub 1 (TNAU)	40	60000	10.65
			Swarna sub 1	40	10000	9.32



MTU 1061- Flood tolerant rice variety

28 DAMUs
Andhra Pradesh – 9
Telangana – 8
Tamil Nadu – 10
Puducherry - 1

- 40156 block level and 2900 district level Agromet Advisory Bulletins were prepared and disseminated
- 13169 Weather based agro advisories were sent to the farmers (Crops - 11097, Livestock – 2072)
- 370 **Farmers awareness** programmes were organized with the participation of about **18000** farmers and farm women
- About **50 feedback studies** and **45 impact studies** were conducted



S.No	State	No. of KVKs with IFS units	No. of IFS units in farmers' fields/ villages
1	Andhra Pradesh	18	85
2	Telangana	11	45
3	Tamil Nadu	20	667
4	Puducherry	2	4
Zone total		51	801



IFS unit in KVK, Cuddalore

**Paddy + fish + goat+ poultry +
duck+ honeybee + vermicompost
+ Azolla + Fodder**

Establishment cost (Rs.)	Recurring Expenditure (Rs.)	Gross Returns (Rs.)	Net Returns (Rs.)	Benefit Cost Ratio (BCR)
122000	35000	395000	355000	1: 3.23

CFLD Pulses: Understanding the Pulse of Productivity

Crop	Area (ha)	No. of Demos	Yield in Demo (q/ha)	Yield in Check (q/ha)	% Increase in yield	Seed produced (q)
Blackgram	1280	2993	11.09	8.56	29.58	14,191
Greengram	860	2022	9.60	7.51	27.75	8,256
Redgram	520	1192	10.94	8.89	23.04	5,691
Bengal gram	400	869	19.55	16.63	17.52	7,819
Total	3060	7076				35,957

New Varieties demonstrated (with BMP)

Crop	Varieties
Blackgram	GBG 1, LBG 752, LBG 787, MBG 207, PU 31, TBG 104, VBN 10, VBN 11, VBN 8
Greengram	CO 8, IPM 2 14, LGG 607, MGG 295, MGG 385, MH 421, VBN 4, WGG 42
Redgram	BSMR 736, CO 8, LRG 105, LRG 52, PRG 176, TRG 59, WRG 97
Bengal gram	NBeG 3, NBeG 452, NBeG 49



Greengram WGG 42



Red gram (WRG 97) as intercrop



Bengal gram NBeG 3



- About 353 tonnes of N fixed in demo plots
- About 247 tonnes of residual N left for next crop

- About 706 tonnes of fossil fuels conserved
- About 7191 quintals of proteins produced from demo plots

53 KVKs, 6075 demos and 2430 ha covered

Sl.No	Crops	Average yield (q/ha)		Yield increase (%)	Yield Gap (q/ha)
		Demo	Local		
Kharif season					
1	Groundnut	21.03	16.83	24.96	4.2
2	Castor	16.69	10.54	58.35	6.15
3	Niger	5.25	3.68	42.66	1.57
4	Sunflower	18.05	15.8	14.24	2.25
Total (kharif)					
Rabi season					
1	Groundnut	27.76	21.69	27.99	6.07
2	Castor	16.6	11.54	43.85	5.06
3	Sesame	8.24	6.57	25.42	1.67
4	Sunflower	12.94	10.48	23.47	2.46
5	Safflower	12.8	9	42.22	3.8
Total (Rabi)					
Summer Season					
1	Groundnut	23.21	15.75	47.37	7.46
2	Sesame	6.39	5.23	22.18	1.16
3	Safflower	14.6	13.82	5.64	0.78
4	Sunflower	17.26	15	15.07	2.26

32,962 q of oilseeds produced and 14,70,875 liters of oil expelled



32 Drones Sanctioned

9 ICAR Institutes

2 SAUs

10 KVKs

27 – Purchased

Demonstrations conducted - 2809

Area covered - 4922 ha

Farmers participated - 18803

Comparison

Particulars	% of manual /tractor
Time required /ha	10.92
Cost of operation /ha	88.51
Chemical required /ha	69.54
Water required / ha	6.32





DAPST implemented through 16 KVKs during 2022-23

Agri-services



Item	Numbers	Beneficiaries
OFT	304	323
FLD	1513	1906
Training	295	8950
Seed (q)	6857.19	5104
PM	256185	3882

Skill Training



213	1424
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Physical assets / micro-enterprises



14566	7507
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Items/ Activities	Quantity	Achievement	No. of beneficiaries
On Farm Trials (OFTs)	No.	513	2285
Frontline Demonstrations (FLDs)	No.	1129	6428
Capacity building	No.	1913	37409
Extension activities	No.	1630	46809
Seed (field crop) Production	Q	1899.479	7549
Livestock strains and fingerlings	No.	252064	5526
Planting material supplied	No.	1841427	18046
Testing samples of soil and water	No.	7526	7750
Promotion of agri/entrepreneurship	No.	824	2396



Total Soil Samples analyzed	14073	11654	3424	16005	15865	1143	7700	6963	473	146	116	116	37924	34598	5156
Water samples analyzed	3276	2736	1315	1385	1338	525	422	405	77	41	27	27	5124	4506	1944
Plant Samples analyzed	107	101	81	0	0	0	48	12	2	45	0	0	200	113	83
Manure samples analyzed	109	5	4	0	0	0	0	0	0	0	0	0	109	5	4
Others	119	111	64	0	0	0	0	0	0	0	0	0	119	111	64
Total	17684	14607	4888	17390	17203	1668	8170	7380	552	232	143	143	43476	39333	7251



- 44 KVKs involved in the project
- No external input natural farming promoted
- Every KVK with natural farming block of 1-5 acres

Activity	Number	No. of farmers
Awareness programs	462	37590
Training programs	44	1680
Demonstrations	176	254



Awards: Kudos Harvest – Applaud the Achievers



Mrs Pappammal , a 105 year old natural farmer from Coimbatore received Padmasri award



KVK, Namakkal gets best KVK award from ICAR-NRCB, Trichi



Dr. V. Suresh, KVK, Tiruvannamalai – best extension worker award from district collector

Dr. V. Radhakrishnan, KVK, Tiruvarur- best extension worker award at district level





Connect Fields: KVKs Vision for Tomorrow



Innovative Outreach
Digital, Social Media, Farmers as Citizen Extensionists



Beyond 180 days employment in 3 seasons
Promoting Secondary Agriculture - 360°



Farm to Fork Approaches
Embracing Value chain - post-harvest management, processing, and marketing



Localized Solutions
Context Specific solutions- Time Critical Feedback



Financial Inclusion
Credit, Insurance, Remittances, DBT Linked to Technology



Youth Involvement
Agrepreneurship, Farmers centric Start Up Ecosystem, Financial Inclusion – Technology Integration



Climate-Resilient Farming
Catalyzing the Resilience, Adaptation



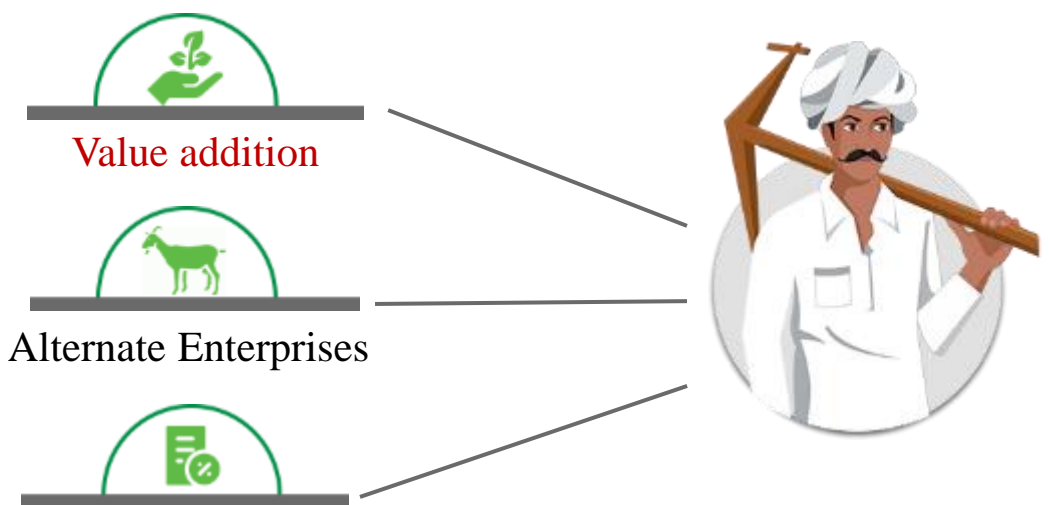
Agri-Tech Adoption
Precision farming, smart irrigation, and digital tools



Women's Empowerment
training, access to resources, and involvement in decision-making



Next Gen Capacity Building
Skilling in new Frontiers of Extension, MOOCs, Video Platforms



Production activity – sustainability of production, monetization of produce, enterprises



Beyond 180 days employment in 3 seasons
Without competing with the primary ag activities



Income generating activities using crop residues
Natural resources, primary processing, paddy straw fodder blocks, crop residue briquettes,



Promotion of value addition through food processing



Livestock that does not compete with land and labour **dairy, sheep, goat, fisheries**



Other qualified enterprises include **Bee keeping, mushroom, backyard poultry**



Rural industrialization MSME **seed production, planting material for horticulture crops, agro-forestry species, floriculture; production and supply of plant nutrient, vermicompost**





Sowing the Future: Roadmap Ahead



1. Technology Adoption and Innovation:

Cutting-edge processing techniques

Value addition practices

Post-harvest management solutions.

With research institutions and industry partners

2. Skill Development and Capacity Building:

Processing technologies, quality control, marketing strategies, and business management

KVKs can also collaborate with vocational training institutions to offer specialized courses and certification

3. Market Intelligence and Linkages:

Identify emerging trends, consumer preferences, and market demands for value-added agricultural products.

Facilitate market linkages for farmers and processors

Connecting them with potential buyers, exporters, and value chain stakeholders.

Branding and marketing strategies to enhance the marketability of secondary agriculture products.



Sowing the Future: Roadmap Ahead



4. Entrepreneurship Promotion:

Nurturing and promoting entrepreneurship

Guidance, mentoring, and access to finance. Business incubation centers or agri-startup hubs

FPO / Samunnati MOUs

5. Research and Development:

Applied research, OFTs, field trials, and pilot projects

Value addition, processing, and post-harvest management

6. Policy Advocacy and Support:

Evidence based policy advocacy

GAPs/ Global GAPs and standards

7. Digital Technology Integration:

Digital Platforms, Traceability, and Online Mobile training resources

Virtual demonstrations



Doing the right thing is wrong!

Digital Transformation of KVKs: What to Expect



Digital Mobile Based

SMS, IVRS, Voice Calls, Apps, Chatbots – Assessment & Strategies

Digital Projects

Agri Drones, IOT Suits, DAMU, Kisan sarathi, AI/ML – Assessment & Strategize

Digital in M&E

KVK KN, Spreadsheets, ODKs - Assessment & Strategize

Digital in Targeting Design

GIS/ RS/ Data Analytics – OFT/ FLD/ Training/ Extension Targeting - Assessment & Strategize

Digital in Partnerships

SWOT Analysis - Atleast 4 Partnerships - Assessment & Strategize

Digital in KM

Digital KM products developed from KVK System - Assessment & Strategize

ICT4D in Capacity

Digital MOOCs / Mobile Based One event / training / workshop organized - - Assessment & Strategize

Digital Transformation Roadmap of VK System in place with the Evidence based Advocacy



If not we who? If not now When?

Digital Transformation of KVKs: Tentative Targets



1 AI/ML/BD Network Projects

AI/ML for FLD/ OFT Data analytics

Text Mining of KVK Network reports

Understanding trends in technology assessment, targeting and adoption

Kisan Portal/ Social Media Metrics for PULL services

Meaningful insights, Formal Feedback to Research System

2. Blockchain/ DLT Traceability in value chains

5 value chains – traceability ascertained - Partnerships built

RFID usage for cattle

Convergence Models developed Impact on small holders

3. Kisan Drone applications

SOPs for major applications
Drone Assessment and Refinement

20 DGCA approved RPTOs established across KVK System

**Kisandrones for smallholders
300 Drones
75000 ha Demonstrations**

4. KVK Centric Digital Services

E- Crop Management of ICAR
ONE ICAR App

7320 Technology Inventory videos Platform

An integrated ICAR multi language National Chatbot - Voicebot

Kisan Sarathi Revamped
Smart Farms - Platforms

**National Chatbot
E- Crop Management**



Target **2028** & beyond

- AI/ML efforts for trends, traits, factors - Feedback to Research System
- National KVK Chatbot
- E- Crop Management of KVK System
- ONE KVK Mobile App
- Traceability of 5 value chains initiated
- KVK driven 20 RPTOs with DGCA licences
- Kisan Drone applications 300 drones/ 75000 ha demonstrated
- DAMU – modeling/ automating push messages





Thankful Terrain: People who matter the most



Dr. Himanshu Pathak, Hon'ble Secretary, DARE & DG, ICAR

Dr. U.S. Gautam DDG (Ag Extension, ICAR

Dr. RR Burman, Dr. RK Singh, ADGs, ATARI Directors

My Team of KVKs

VCs and DEEs of my Zone

My Team at ATARI, Hyderabad

Mentors like Dr P Das, Dr. VV Sadamate, Dr. PN Mathur, Dr.RK Samanta

Farmers of the zone

.....Those directly and indirectly involved !
