

Smart Agriculture

Budget Implementation – Breakout Session 2 (24th Feb 2022)

Emerging Hi-tech & Digital Agri Ecosystem

Chair:

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Moderator:

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Why Hi-tech and Digital

Current Status

Small Holders
widely varying production
conditions
Dynamic Market

Mission

Doubling income
Enhancing production and
productivity

Indian
Agriculture/Animal
Husbandry/Fisheries

So far

Use of more inputs

more output

Rising input cost/resource constraints

Strategy needed

More efficient use of inputs
Intelligent production choice
Smart Marketing

Lower Cost
Reduced Risk
Higher Receipts
Reduced Wastage

Smart Machines
Smart use of machine
Data driven methods

Hi-tech & Digital Services

Budget Announcements

- *'For delivery of digital and hi-tech services to farmers with involvement of public sector research and extension institutions along with private agri-tech players and stakeholders of agri-value chain, a scheme in PPP mode will be launched.'*
- *Use of 'Kisan Drones' will be promoted for crop assessment, digitization of land records, spraying of insecticides, and nutrients.*



- Intelligent IOT enabled tools
- Drone based Operation and Monitoring
- Smart application of inputs/water
- Smart feeding: Animal Husbandry & Fisheries
- Pest and Disease Management
- Protective cultivation
- Smart storage and Logistics
- Traceability & tracking- Block chain
- Soil Health Monitoring & Weather Forecasting

- Crop acreage and yield estimation
- Crop loss/damage assessment
- AI- Driven farm advisory
- E-Education of Training
- Helpline & Advisory services

NeGPA Promotes

- Remote Sensing & GIS
- Data Analytics and Cloud Computing
- Block chain
- Seed & Organics
- Artificial Intelligence & Machine Learning
- Internet of Things & Sensors
- Robotics
- Drones: plant chemical application

Intended Outcome

- ✓ Crop Survey, assessment & advisory
- ✓ Monitoring and Planning
- ✓ Traceability
- ✓ Precision agri
- ✓ Soil health & pest surveillance
- ✓ Automating farm operation
- ✓ Plant chemical application
- ✓ Yield assessment and monitoring

Projects so far sanctioned: Agriculture

Projects Sanctioned

(i) Unmanned Aerial Vehicle for Agriculture Applications, (ii) Hand Held Tool based Soil Health Monitoring Integrated system and (iii) Automated Fire Alert System for Crop Residue Burning in U.P.

(i) Crop Monitoring (ii) Automated irrigation Systems (iii) Fertilizer Calculation

(iv) Automated Farm Operation (v) Traceability from seeds to produce and (vi) Produce Grading and Quality Assaying

Creation of Farmer Database

e-project on ML based Crop Health Checkup for paddy crops.

Gap Analysis & proposed solution to overcome the gaps in existing system in terms of integration digital transformation & seamless process flow

Under Examination

Interoperability

Digital Ecosystem

Market Intelligence

Traceability

User States: Arunachal Pradesh/Bihar/ Meghalaya/Uttar Pradesh/Telangana /Odisha/ Punjab/ Assam/ Andhra Pradesh/ Rajasthan

Current Schemes: Agriculture

Agristack

- Unified platform for provision for end-to-end services
- To build innovative agri focused solution

Work Started

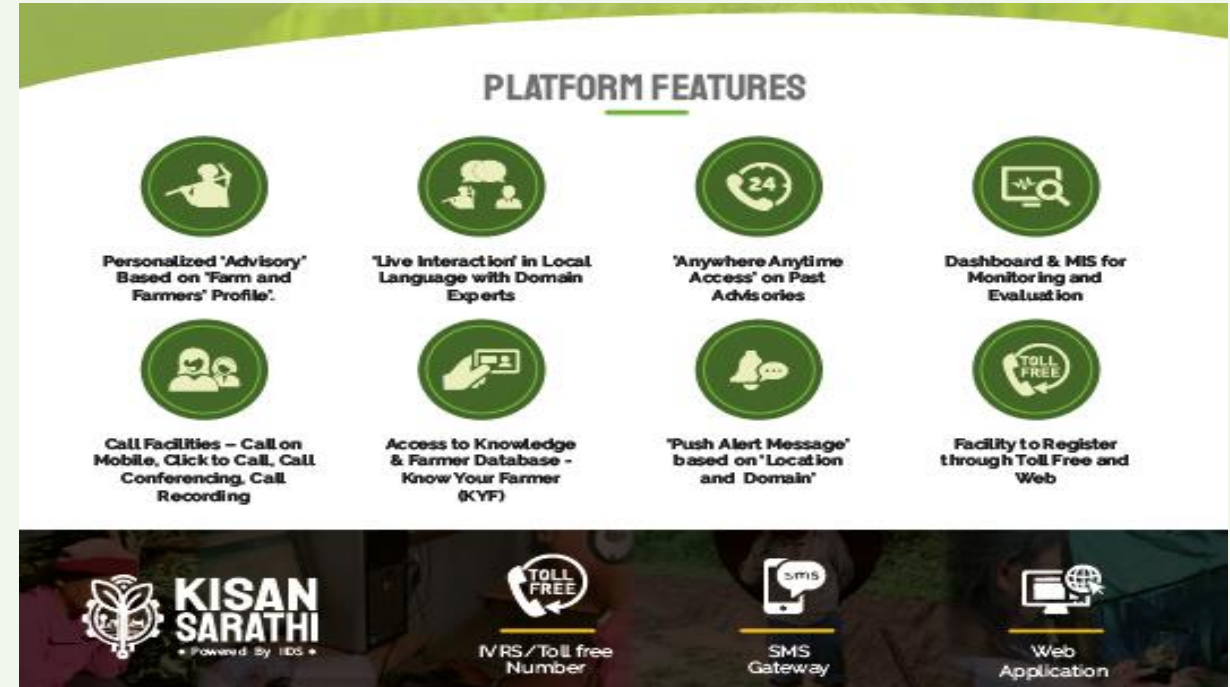
SMAM

- Use of drones: liberalized drone policy
- Provision of custom hiring centres/
Cooperatives/ Farmer Producer Organisations/
ICAR
- Hi-tech equipment hubs
- Promotion of entrepreneurship & employment

System of Agri-information Resources Auto-transmission and Technology Hub Interface

Toll free: 1800-123-2175 / 14426
<https://kisansarathi.in>

Jointly by ICAR & Digital India Corporation



- **Current: 2-way Multi-lingual system**
- **Future: Multimedia, Multi-way advisory & communication system**

- ✓ **Other Initiatives: Sensors, IOTs, WSN, low cost equipment's, robots, drone, data integration & knowledge management, Big data analytics tools communication innovation**
- ✓ **Precision agriculture, Hydroponics / High-tech agri**

Present Status

Registered Farmer	: 18,06,552
Registered KVK	: 263
Agricultural Scientist	: 1,097
Number of Villages	: 40,477
Total Calls	: 45,712
SMS	: 98,91,525

Current Schemes: Animal Husbandry & Dairying

- **National Animal Disease Reporting System (NADRS)**

Surveillance, Monitoring, Controlling. Captures First Information Report(FIR), Daily Incidence(DI) cases from Block level nodes and subsequently, Validation for information & action.

- **Sanitary Import Permit (SIP) Information System**

It is a workflow based application: importers can register, apply, pay online, track application and download SIP.

- **Foot and Mouth Disease Control Programme (FMDCP)**

Facilitations target fixing & monitoring of FMD vaccination.

- **20th Livestock Census**

Tablet based application to capture the household level breed wise livestock data and web based workflow application for validation and scrutiny.

Schemes:

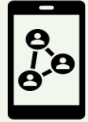
- Animal Husbandry Infrastructure Development Fund
- Rashtriya Gokul Mission
- Digital Livestock Mission (Pilot in Uttarakhand)

Current & Possible uses: Aquaculture /Fisheries

सत्यमेव जयते



Cloud based pond management system



AI Driven Farm Advisory platform



Automatic feeders



Omnichannel marketplace for Feed, healthcare products & equipment.



Acoustic based AI driven Shrimp Feeding System



AI driven Remote sensing(RS) platform for providing credit and insurance linkages b/w farmers and Banks.



Pond Management System



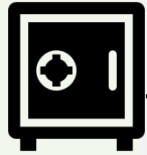
Post-Harvest market linkage platform for farmers.

Future uses: Ocean Farming/Bioprocessing/solutions

Current Schemes: Fisheries

Dept of Fisheries Interventions

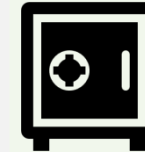
Pradhan Mantri Matsya Sampada Yojana (PMMSY)



Rs 1236 Cr. investment in
Technology infusion in fish
production.
IOT in RAS/Biofloc



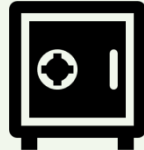
Rs 50 Cr. investment in IT /
Blockchain enabled end to end
traceability



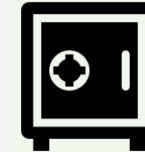
Rs 20 Cr. for promoting
start-ups for driving IoT, AI and
technology for GAP



Rs 600 Cr. Aqua parks
development
IT based solutions



Rs 40 Cr. for innovation,
technology incubation



Rs 35 Cr. investment for IT
based marketing platform



Support to Innovation and Innovative projects- StartUp ecosystem in aquaculture

Thank you..