FARM CROP MANAGEMENT SYSTEM (FCMS)
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• Farm Level Intervention
  o Narrowing down the yield gap
  o Essentially takes care of small and marginal farmers
  o Maximizing the income
  o Increasing the return from factors of production –
    • land and water.
• Paradigm shift from area based to farm based
• FCMS project started with Bench mark in Eight districts up-scaled to the entire state
## FCMS – Farm Level Approach

### Planning
- Micro level zonation
- Baseline Asset mapping
- Soil Health Mapping
- Crop Matrix

### Intervention

#### Production Led
- Crop Health monitoring
- Extension
- Mobile Advisories
- Complete Hand-holding
- Grower Clusters & FPOs
- Online Benefit tracking system
- Online booking of Farm Machineries

#### Market Led
- Agriculture Market Intelligence and Business Promotion Centre (AMI&BPC)
- Post Harvest Management System (PHMS)
MICRO AGRO CLIMATIC ZONATION

- Tamil Nadu grouped into seven Macro Agro climatic zones based on rainfall.
- This broader grouping is not precise to provide bouquet of options to farming.
- Micro Weather parameters obtained from Automatic weather stations located at block level - to delineate the Micro Agro Climatic zone.
**BASELINE ASSET MAPPING**

- Baseline asset mapping contains Personnel, Contact, Bank, Group, land, Plantation, Farm Machineries, Wells, Micro Irrigation, Fodder crop, Sericulture details and Farm animals, Fisheries, agro forestry details and other information for integrating the Farming System.

- With data on Factors of production - land, water and Climate Paradigm shift from area based approach to farm based approach.

- Increasing the productivity by benchmarking the potential yield, maximum yield and average yield at village, block, district and state.

- Integration of knowledge base and Asset base.

- Of the total 81.18 Lakhs farm families in Tamil Nadu baseline asset mapping of about 68 Lakhs farm families done.
SOIL HEALTH MAPPING

• Soil type - individual farm soil characteristics - physical and nutritional
• Soil samples collected from all the farm lands in the last 3 years
  o Individual farm visit, village level collection by ATMA Farmers Friend and Agri college students, Mass campaign through Farmers festival (Uzhavar Peruvizha)
• Micro Agro climatic zone-wise information displayed through GIS made available for decision making at farm level.
• 68 lakhs Soil sample collected –
  o Micro and Macro Nutrient tested and data uploaded
• 45 lakhs Farmer Integrated Hand Book distributed containing major and micro nutrient availability and fertilizer recommendations, benefits availed – valid for 3 years
CROP MATRIX

- Development of crop matrix - particularly based on the Climate, Asset and Soil – physical and nutritional status
- Season wise crop matrix - for most desirous Agricultural and Horticultural crops
- Bouquet of options provided to farmers in descending order- based on profitability and resource availability
- Crop-wise, season-wise matrix provide –Technology, Cultivation practices, Input requirement.
- Requirement of critical inputs at the farm level consolidated
- timely availability ensured by integration with input agencies.
CONTINUOUS CROP HEALTH MONITORING

• Field level functionaries monitor crop health periodically and upload the data using Tablet PCs enabled with 3G, GPS, GPRS, 5MP back camera
• Constant interaction by the field level functionaries through
  o Scheduling of visits to each revenue village on specified days
  o Pest and Disease monitoring
  o Biometric observation
  o Yield assessment
  o Personalized Advisories on Crop Plan, input, interventions required at critical stages and Market information by integrating SMS Portal
EXTENSION

• Field functionaries of agriculture and horticulture wing are visiting the villages on fixed days

• PICO projector used for effective dissemination of path breaking technologies to homogeneous Commodity Group – 174 Nos. distributed

• Linking KVKs/Research stations for knowledge sharing through Video Conferencing facilities created in Tablet PCs

• Mobile advisories – text and voice on critical activities as per crop plan and it is the gateway to interact with the server

• All in one touch kiosk - general information, maximum yield, potential yield, technologies, crop plan for his field, input dealers, success stories- 125 Nos. distributed
• **Crop Doctor** – helps farmer himself to diagnose the crop health related issues and the solutions there of.

• Five crops covered were deployed
  
  o Paddy, Ragi, Sugarcane, Coconut and Banana

• These information are available in PACCS, Panchayat Union and Panchayat office

• Tele crop health management
  
  o Farmers can upload the affected symptoms photo for remedial advisories from the experts in research stations and TNAU scientists
MOBILE ADVISORIES

• Advisories are provided on Input availability, Weather and Market – 14.88 crore text advisories and 2.1 crore voice advisories given

• The market forecast are given both Local and state level

• The advisory services are integrated with SMS portal facilitating the field level functionaries to provide customized information to the farmer
Our FCMS portal is integrated with Kisan SMS portal

Personalized messages are being delivered to the farmers by the field level functionaries using Android Tablet PCs.
COMPLETE HAND-HOLDING

• For complete hand holding - through technology transfer - knowledge enrichment –

• 4500 Field Level Functionaries sensitized on use of ICT Gadgets

• Awareness created among Farmers and Farmer Friend on FCMS concept during Farmer Festival (Uzhavar Peruvizha)
ONLINE BENEFIT TRACKING SYSTEM

• Transparent identification of most desirable beneficiaries
• Tracking the impact of benefits accrued
• Previous year beneficiaries and sustaining of the benefits
• Capturing the demonstrating effects
• All the 880 Agricultural Extension Centres in the State went online
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<tr>
<td>Farmer’s code no.</td>
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<tr>
<td>Name</td>
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<tr>
<td>Block</td>
<td>Achirapakkam</td>
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<tr>
<td>Village</td>
<td>Achirapakkam</td>
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<td>Type of Machinery required</td>
<td>Tractor</td>
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<tr>
<td>Required on</td>
<td>6 hours on March 25th</td>
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<td>No. of hours</td>
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</table>
GROWER CLUSTERS & FPOs

• Clusterizing the growers of selected crops for adoption of frontier technologies

• Adoption of Improved cultivation practices as a cluster
  ○ These Grower Clusters are federated at higher level to form FPOs

• Knowledge enrichment – for Selected crops technology –
  ○ Cultivation practices -
  ○ Input management –
  ○ Crop health management –
  ○ Pre and Post harvest information

• Extension worker contacts farmer individually - in the farm itself - informing the crop plan and market trend - as advised by the marketing to opt for the ensuing season
AGRI MARKETING INTELLIGENCE AND BUSINESS PROMOTION CENTRE (AMI & BPC)

MARKET LED INTERVENTION

FCMS

AMI & BPC

TREND ANALYSIS

Advisory to farmers on -

- Post harvest processing, Value Addition and Loss Reduction
- Price Trends and Analysis
- Future market Scenario
- Market Oriented Agriculture

Information to Department on

- Infrastructure gap in post harvest Processing & Marketing
- Strategies for profitable Agriculture

Local / District / State / National / International Market Price
YIELD MONITORING AND PRODUCTION ASSESSMENT

• To link it with market suggesting advisory on
  - Advancement and Postponement of harvest of harvest based on weather condition
  - Getting an indication for arrivals of quantity and quality
  - To give advisories on demand at various markets to establish link between grower and buyer
Post Harvest Management System (PHMS)
e-Licensing

- About 12,000 seed dealers and 17,000 fertilizer and pesticide dealers
- Applying and issue of license goes on line
Common Service Centers (CSC)

- **2500** CSC are functioning in the State
- **Revenue and Social Welfare services** are currently available
- The agri e-services are now linked to **CSC through Tamil Nadu Government web-site (tn.gov.in)**
Financial Proposal under NeGP - Agriculture
Computer hardware required for the purpose of obsolescence

- Five years’ life of hardware is considered (NeGP – A - guidelines – Annexure - 1)
- As pioneer state in the implementation of AGRISNET Project 493 systems provided during 2007 are now obsolete.
- Hence needs replacement in all the locations
- Proposed Rs. 247 lakhs for 493 systems (State, District and Blocks)
Man power Engagement

- 1 Senior consultant and 3 consultants considered (NeGP – A - guidelines – Annexure - 1)
- The ICT activities are growing every day
- It is absolute need of the hour to appoint consultants to assist in implementing the latest technologies and advancements
- Rs. 40 lakhs proposed per year to appoint consultants
Connectivity

• Currently 47 TNSWAN and 776 BSNL broad band connections are established.
• Effective connectivity could not be achieved by the above two means
• Utilizing the provision of data card wherever necessary to implement the ICT activities vide para 7.1 of the NeGP-A guidelines
• to sustain the connectivity through the potential providers in future for 823 locations Rs. 62 lakhs required
Touch Screen

• In accordance with the guidelines contained in NeGP – A - guidelines – Annexure – 1 A regarding provision of touch screens
• 125 nos of Touch screen is already provided and are put into effective use
• For the remaining 68 blocks at Rs. 65000 total requirement of funds is Rs. 44.20 Lakhs
Hand Held Device

- Hand held devices for effective ePest Surveillance under NeGP – A - guidelines – Annexure – 1 A
- Already 2319 nos supplied to all the field level staff of Agriculture Department
- 2500 hand held devices now proposed for Horticulture and Marketing
- This will facilitate ePest Surveillance, FCMS and PHMS activities by the field level functionaries.
- The fund requirement is Rs. 500 lakhs at Rs. 20000 per device
Crop Doctor

- Effective dissemination of technologies and interactive way of communicating with the farming community through ICT gadgets
- Crop Doctor developed for 5 crops and deployed
- Another 17 more potential crops proposed in regional and national languages
- Fund requirement Rs. Rs.212 lakhs for development including provision in android platform
Post Harvest Management System (PHMS)

- Implementation of PHMS is proposed.
- About 350 nos of mandis are proposed under hub and spoke model for fair market practices in the state.
- Funds proposed as per the guidelines contained in NeGP-A.
- Rs. 85000 for computer infra and connectivity per node for 345 nos (280 RMss and 65 Market Complex) Rs. 281
Ensuring ICT outlook

• IT empowerment of the Managerial functionaries
• Ensuring effectiveness and agility in Decision making at field level
• Laptop with connectivity to all the Management level functionaries
• To provide 2000 Nos fund requirement is Rs. 1000 Lakhs (one unit costs Rs. 50000 including connectivity)
Effective Communication

• Establishing effective communication among the extension staff is the only way to provide on the spot solution to farming community

• To achieve this Rs. 112 Lakhs is required to provide uninterrupted connectivity by CUG for 7500 Nos of extension functionaries.
<table>
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<tr>
<th>S.No</th>
<th>Item</th>
<th>Unit cost</th>
<th>Quantity</th>
<th>Cost Rs. in crores</th>
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<td>Non Recurring</td>
<td>Recurring</td>
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<tr>
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<td>Replacement of Obsolete computers</td>
<td>Rs. 50000</td>
<td>493 Nos</td>
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<td>2</td>
<td>Manpower – Consultants</td>
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<td>3 Nos</td>
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<td>3</td>
<td>Connectivity</td>
<td>Rs. 7500 per year</td>
<td>823 locations</td>
<td>0.62</td>
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<tr>
<td>4</td>
<td>Touch screen Kiosks</td>
<td>Rs. 65000 per unit</td>
<td>68 Nos</td>
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<tr>
<td>5</td>
<td>PHMS in nodes</td>
<td>Rs. 74000 per node (Cost of connectivity Rs. 7500 per year)</td>
<td>345 Nos</td>
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<td>6</td>
<td>PHMS in Hubs</td>
<td>Rs. 74000 per Hub (Rs. 7500 for connectivity per year)</td>
<td>31 Nos</td>
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<tr>
<td>7</td>
<td>Hand held devices</td>
<td>Rs. 12500 per unit (Connectivity charges Rs. 7500 per year)</td>
<td>2500 Nos</td>
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<tr>
<td>8</td>
<td>Crop Doctor</td>
<td>Lumpsum</td>
<td>17 Crops</td>
<td>2.12</td>
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<tr>
<td>9</td>
<td>Laptop to managerial cadre</td>
<td>Rs. 42500 per laptop (Rs. 7500 for connectivity per year)</td>
<td>2000 Nos</td>
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<td>10</td>
<td>CUG connectivity</td>
<td>Rs. 1500 per year</td>
<td>7500 Nos</td>
<td>1.12</td>
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Non Recurring  
Recurring  
Total  
Rs. 19.442 Crores  
Rs. 4.514 Crores  
Rs. 23.956 Crores