# ICAR Krishi Vigyan Kendra Erode - Tamil Nadu









Submitted to ICAR - ATARI, Zone - X, Hyderabad

# ANNUAL REPORT 1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021

# **<u>1. GENERAL INFORMATION ABOUT THE KVK</u>**

## 1.1. Name and address of KVK with phone, fax and e-mail

| Name of the KVK | : | ICAR KVK MYRADA, ERODE DISTRICT            |  |
|-----------------|---|--|--|
| Address         | : | ICAR – Krishi Vigyan Kendra                |  |
|                 |   | 272, Perumal Nagar                         |  |
|                 |   | Puduvalliampalayam Road                    |  |
|                 |   | Kalingiyam Post                            |  |
|                 |   | Gobichettipalayam Taluk                    |  |
|                 |   | Erode District – 638453                    |  |
|                 |   | Tamilnadu                                  |  |
| Phone No.       | : | 04285 - 241626                             |  |
| Email ID        | : | myradakvk@gmail.com; KVK.Erode@icar.gov.in |  |

#### 1.2 .Name and address of host organization with phone, fax and e-mail

| Name of the Host Organization | : | MYRADA (Mysore Resettlement & Development Agency) |
|-------------------------------|---|---|
| Status of Hose Organization   | : | Non-Governmental Organization                     |
| Address                       | : | MYRADA  |
|                               |   | No.2 Service Road,                                |
|                               |   | Domlur Layout,                                    |
|                               |   | Bangalore – 560 071                               |
| Phone No.                     | : | 080 - 25353166, 25352028, 25354457                |
| Fax No.                       | : | (91-80) 25350982                                  |
| Email                         | : | myrada@myrada.org                                 |
| Name of the Chairperson       | : | Shri.Arvind G.Risbud, IAS., (Rtd)                 |
| Mobile No.                    | : | 9449083166  |
| Email                         |   | arvindrisbud@yahoo.com                            |

#### 1.3. Name of the Programme Coordinator with phone & mobile No.

| Name of Senior Scientist & Head | : | Dr.P.Alagesan                                  |
|---------------------------------|---|--|
| Residential Address             |   | 20, Gandhi Nagar                               |
|                                 |   | Gobichettipalayam                              |
|                                 |   | Erode  |
| Phone No.                       | : | 04285 - 226563                                 |
| Mobile No.                      | : | +919443897654                                  |
| Email ID                        | : | P.Alagesan@icar.gov.in; azhagujanani@yahoo.com |

#### **1.4. Year of sanction of the KVK (as per Official Order)** : 1991

#### **1.5.** Month and year of establishment:

1<sup>st</sup> April 1992

:

# 1.6. Total land with KVK (in ha) (Consolidated figure):

| S. No. | Item                      | Area (ha) |
|--------|---------------------------|-----------|
| 1      | Under Buildings           | 3 ha.     |
| 2.     | Under Demonstration Units | 1 ha.     |
| 3.     | Under Crops               | 18 ha.    |
|        | Total                     | 22 ha.    |

# **1.6. Infrastructural Development:**

# A) Buildings

|     |                             | Source of | Stage              |                          |                      |                  |                          |  |
|-----|-----------------------------|-----------|--------------------|--------------------------|----------------------|------------------|--------------------------|--|
| S   | Name of                     | Tunung    |                    | Complete                 | d                    | Incomplete       |                          |  |
| No. | building                    |           | Completion<br>Date | Plinth<br>area<br>(Sq.m) | Expenditure<br>(Rs.) | Starting<br>Date | Plinth<br>area<br>(Sq.m) | Status of<br>construction<br>Completed |
| 1.  | Administrativ<br>e Building | ICAR      | 8/20/1997          | 172                      | 667821               | -                | -                        | Completed                              |
| 2.  | Farmers<br>Hostel           | ICAR      | 11/22/2011         | 300                      | 3489820              | -                | -                        | Completed                              |
| 3.  | Staff Quarters for PC       | ICAR      | 2/10/1993          | 87                       | 199081               | -                | -                        | Completed                              |
| 4.  | Staff Quarters for SMS      | ICAR      | 7/22/1998          | 396                      | 1611956              | -                | -                        | Completed                              |
| 5.  | Vehicle Shed                | ICAR      | 12/24/2010         | 46.45                    | 198159               | -                | -                        | Completed                              |
| 6.  | Cattle and<br>Poultry shed  | ICAR      | 11/27/2012         | 111.50                   | 797956               | -                | -                        | Completed                              |
| 7.  | Processing<br>Unit          | MYRADA    | 17/08/2015         | 60                       | 33000                | -                | -                        | Completed                              |
| 8.  | Home Science<br>Lab         | MYRADA    | 3/25/2017          | 200                      | 200000               | -                | -                        | Completed                              |

# **B)** Vehicles

| Type of vehicle                        | Year of purchase | Cost (Rs.)  | Total kms covered as<br>on 31.12.2021 | Present status    |
|--|------------------|-------------|---------------------------------------|-------------------|
| Mahindra – Jeep                        | 2017             | 7,99,671.00 | 139,194                               | Running condition |
| Hero Honda Super splendor<br>TN36M1042 | 2009             | 49,964.00   | 47001                                 | Running condition |
| Hero Honda Super splendor<br>TN36M1017 | 2009             | 49,964.00   | 37308                                 | Running condition |

# C) Equipment & AV aids

| Name of the equipment             | Year of purchase | Cost (Rs.)  | Present status |
|-----------------------------------|------------------|-------------|----------------|
| Soil Test Lab equipment           | 2004             | 5,18,766.00 | Good Condition |
| Xerox cum Printer                 | 2004             | 75,000.00   | Not in use     |
| Canon Digital Camera              | 2005             | 9,495.00    | Not in use     |
| Kodak Digital Camera              | 2005             | 8,155.00    | Not in use     |
| Power weeder                      | 2007             | 76,960.00   | Good Condition |
| Rotary weeder & tiller            | 2007             | 99,996.00   | Good Condition |
| Chisel Plough                     | 2007             | 8000.00     | Good Condition |
| LCD, Computer System& Printer     | 2007             | 1,00,000.00 | Good Condition |
| Direct Paddy Seeder               | 2008             | 4,500.00    | Good Condition |
| Rotovator                         | 2008             | 76,960.00   | Good Condition |
| Cono weeder                       | 2009             | 3,400.00    | Good Condition |
| Fax Machine                       | 2009             | 15,000.00   | Not in use     |
| Tractor                           | 2010             | 4,99,800.00 | Good Condition |
| Plant health diagnostic equipment | 2010             | 9,99,196.00 | Good Condition |
| Coconut tree climber              | 2010             | 2,500       | Good Condition |
| Zero Seed Drill                   | 2010             | 47500.00    | Good Condition |
| Eepabx system                     | 2011             | 26,395.00   | Not in use     |
| Generator                         | 2011             | 2,79,520.00 | Good Condition |
| Power Tiller                      | 2011             | 1,41,590.00 | Good Condition |
| Maize Dehusker                    | 2011             | 44,720.00   | Good Condition |
| Groundnut Pod Stripper            | 2011             | 24,700.00   | Good Condition |
| Laser guided land leveler         | 2011             | 3,60,000.00 | Good Condition |
| Bud chipper (Sugarcane)           | 2011             | 6,656.00    | Good Condition |
| Chaff cutter                      | 2012             | 19,425.00   | Good Condition |
| Tamarind Dehuller                 | 2014             | 36,750.00   | Good Condition |
| Millet Dehuller (Centrifugal)     | 2014             | Kind        | Good Condition |
| Millet Dehuller (CIAE)            | 2014             | Kind        | Good Condition |
| Millet Destoner cum Grader        | 2014             | Kind        | Good Condition |
| Pulverizer                        | 2014             | Kind        | Good Condition |
| Millet Dehusker                   | 2015             | Kind        | Good Condition |
| Millet Mill                       | 2015             | Kind        | Good Condition |
| Packaging Machine-Polythene Bags  | 2015             | Kind        | Good Condition |
| Packaging Machine-Gunny Bags      | 2015             | Kind        | Good Condition |
| Flour Shifter                     | 2015             | Kind        | Good Condition |
| Millet Pulverizer                 | 2015             | Kind        | Good Condition |
| Mridaparikshak Soil Test Kit      | 2015             | 83,000.00   | Good Condition |
| HP Pavilion Computer              | 2016             | 32,900.00   | Good Condition |
| HP LaserJet Printer 1020+         | 2016             | 9,000.00    | Good Condition |
| Canon Printer LBP2900             | 2016             | 8,900.00    | Good Condition |

| Name of the equipment                                 | Year of purchase | Cost (Rs.)   | Present status |
|---|------------------|--------------|----------------|
| UPS with Batteries                                    | 2016             | 74,000.00    | Good Condition |
| External Hard Disc Drive                              | 2017             | 9,800.00     | Good Condition |
| HP Scanner  | 2017             | 9,000.00     | Good Condition |
| Podium (PAS)  | 2017             | 32,500.00    | Good Condition |
| Photocopier with Tray                                 | 2017             | 54,224.00    | Good Condition |
| Mridaparikshak Soil Test Kit                          | 2017             | 86,000.00    | Good Condition |
| Arecanut Dehusker                                     | 2018             | 52,000.00    | Good Condition |
| Spiral Separator                                      | 2018             | 4,500.00     | Good Condition |
| Tamarind dehuller cum Deseeder                        | 2018             | 56,000.00    | Good Condition |
| Egg Hatchery Machine (1000 eggs capacity)             | 2019             | 1,12,000.00  | Good Condition |
| Micro-Tek UPS with Duro Power Battery (12V)           | 2019             | 36,000.00    | Good Condition |
| Auto Clave with Laminor Air Flow (53 Ltr<br>Capacity) | 2019             | 1,64,993.00  | Good Condition |
| Mini Single Twist Rope Making Machine                 | 2019             | 19,234.00    | Good Condition |
| Double twist Rope Making Machine                      | 2019             | 50,740.00    | Good Condition |
| Pulvariser - Hammer Type (Feed Mixing<br>Machine)     | 2019             | 1,76,000.00  | Good Condition |
| Fermenter (100 lit Capacity)                          | 2020             | 7,24,520.00  | Good Condition |
| Banana Fiber Extraction Machine                       | 2020             | 1,25,000.00  | Good Condition |
| Milk Processing Equipment (200 Lts/Hr)                | 2021             | 7,84,000.00  | Good Condition |
| Whirlpool Fridge 185 ltr                              | 2021             | 16,600.00    | Good Condition |
| Whirlpool Fridge 215 ltr with stand                   | 2021             | 20,200 .00   | Good Condition |
| Steel Bero 6 Feet                                     | 2021             | 14,600.00    | Good Condition |
| Electronic Balance Weighing Machine 20 Kg<br>Capacity | 2021             | 21,240.00    | Good Condition |
| Colony Counter  | 2021             | 30,680.00    | Good Condition |
| Dell Desktop Computer & Dell Monitor 19.5"            | 2021             | 5,500.00     | Good Condition |
| Printer - Canon Laserjet (MF244Dw)                    | 2021             | 24,500.00    | Good Condition |
| Bulk Milk Cooler BMC-500                              | 2021             | 2,65,500.00  | Good Condition |
| Khova Machine - 130 Ltrs (Ghee processing Machine)    | 2021             | 1,09,760 .00 | Good Condition |
| Dairy Equipments:-                                    |                  |              |                |
| Insulated Sintex Milk Can                             | 2021             | 40,120.00    | Good Condition |
| SS Milk Can (40 Lts Capacity)                         | 2021             | 1,62,840.00  | Good Condition |
| Milk Analyzer   | 2021             | 9,440.00     | Good Condition |
| Butter Chumer   | 2021             | 7,080.00     | Good Condition |
| Curd Chuming Machine                                  | 2021             | 7,080.00     | Good Condition |
| Ice Box   | 2021             | 11,800.00    | Good Condition |
| Freezer - 500 Ltrs (Blue Star)                        | 2021             | 41,000.00    | Good Condition |
| Freezer - 200 Ltrs (Blue Star)                        | 2021             | 27,000.00    | Good Condition |
| Can Brushers  | 2021             | 9,440.00     | Good Condition |
| Cleaning Motor Assembly                               | 2021             | 35,400.00    | Good Condition |
| Cleaning Vessels - SS                                 | 2021             | 43,660.00    | Good Condition |
| Banana Fiber Cutter                                   | 2021             | 38,704.00    | Good Condition |

| Name of the equipment                 | Year of purchase | Cost (Rs.)  | Present status |
|---------------------------------------|------------------|-------------|----------------|
| Water Chiller Tub                     | 2021             | 18,500.00   | Good Condition |
| MS Display Shelf (W-15 Ft x H- 6 Ft)  | 2021             | 33,040.00   | Good Condition |
| SS Milk Can (40 Lts Capacity)         | 2021             | 67,966.00   | Good Condition |
| Benchtop Incubator cum Orbital Shaker | 2021             | 1,26,260.00 | Good Condition |
| SMART SCS-300 Off Lie Cream Separator | 2021             | 76,700.00   | Good Condition |
| Milk Analyzer - Ekomilk Ultra         | 2021             | 70,800.00   | Good Condition |
| Insulated Tank                        | 2021             | 1,06,200.00 | Good Condition |
| 100 Ltr SS Storage Tank               | 2021             | 29,500.00   | Good Condition |
| Stabilizer - 5 KVA                    | 2021             | 22,125.00   | Good Condition |
| 200 LPH Holding Coil with Accessories | 2021             | 59,000.00   | Good Condition |

# 1.7. A). Details SAC meeting\* conducted in the year

| S.No. | Date       | No of        | Salient Recommendations  |
|-------|------------|--------------|--|
|       |            | Participants |  |
| 1.    | 30.11.2021 | 62           | KVK can act as a facilitator to provide adequate institutional and     |
|       |            |              | technical linkages for their organizational development of FPO         |
| 2.    |            |              | CICR has Lecanicilium lecanni technology, which can be promoted by     |
|       |            |              | KVK to increase the mass production for the management of bollworms    |
|       |            |              | and sucking pests  |
| 3.    |            |              | Demonstrate the Cotton varieties like Subiksha, Suraksha and Sumantha  |
|       |            |              | in KVK technical programme   |
| 4.    |            |              | KVK to source the required FYM and Vermi compost for CICR farm         |
|       |            |              | with the support of farmers group.                                     |
| 5.    |            |              | Farmers Scientist interaction meeting can be organized by KVK in order |
|       |            |              | to disseminate the technology  |
| 6.    |            |              | Drone technology in Paddy cultivation can be popularized               |
| 7.    |            |              | KVK can involve in conducting camps and provide leaflet / pamphlet     |
|       |            |              | for managing the disease spread to the livestock growers               |
| 8.    |            |              | KVK can share the performance of CO 11015 Sugarcane variety to         |
|       |            |              | Sugarcane Breeding Institute, Coimbatore                               |
| 9.    |            |              | Sett treatment in sugarcane crop can be popularized by KVK through its |
| 10    |            |              | FLD programme  |
| 10.   |            |              | Desi bird disease surveillance chart can be prepared and shared by KVK |
|       |            |              | to the poultry entrepreneurs in order to control the spread of disease |
|       |            |              | TANUVAS Asseel and Namakkal Chicken can be popularized to the          |
|       |            |              | unreached areas by KVK   |
| 11.   |            |              | IIHR vegetable varieties can be popularized by organizing extension    |
|       |            |              | programme  |
| 12.   |            |              | KVK can promote YTP 2 Tapioca variety in Kodumudi and                  |
|       |            |              | Modakurichi block through its technical programme                      |
| 13.   |            |              | KVK can support for Kisan Credit Card linkage to the farmers in the    |
|       |            |              | nationalized bank through its extension activities                     |
| 14.   |            |              | National and State level workshops / seminar can be organized on the   |
|       |            |              | Recent technologies in Agriculture and Animal Husbandry with the       |
|       |            |              | support of NABARD under R&D fund                                       |

| S.No. | Date | No of<br>Particinants | Salient Recommendations  |
|-------|------|-----------------------|--|
| 15.   |      | i ui ticipuitts       | Value addition in <i>Lantana camara</i> for large scale adoption can be organized for tribal families in the hills with the support of NABARD                      |
| 16.   |      |                       | Aromatic crop production can be promoted through producers group in Talavadi / Bargur hills  |
| 17.   |      |                       | Farm sector proposals can be submitted for innovative and recent technologies for popularization   |
| 18.   |      |                       | Farmers / Entrepreneurs – recording in the AIR studio, can be<br>encouraged to cover more number of farmers from KVK   |
| 19.   |      |                       | In association with research station KVK can refine the existing<br>turmeric harvester to avoid breakages in the rhizomes, while harvesting<br>between the furrows |
| 20.   |      |                       | KVK to support for water harvesting models in dry land agriculture system through training and extension programme   |
| 21.   |      |                       | KVK to provide skill training programme on Artificial insemination in desi bird production   |
|       |      |                       | KVK in coordination with VUTRC for marketing of pure parental stocks material through their farmers and entrepreneurs networks in the district                     |
| 22.   |      |                       | KVK can promote Groundnut long duration and drought tolerant variety (CO-6) for enhancing oil content through its technical intervention                           |
| 23.   |      |                       | Awareness training on Ethno veterinary Medicine can be popularized by KVK to increase the adoption percentage  |

\* Attach a copy of SAC proceedings along with list of participants

# 2. DETAILS OF DISTRICT (2021)

# 2.0. Operational jurisdiction of KVKs

| District | New districts governed by the KVK<br>after division of the district, if<br>applicable | Taluks/Tehsils and/or Mandals under the<br>KVKs jurisdiction |
|----------|---|--|
| Erode    | -   | Anthiyur Taluk   |
|          |   | Bhavani Taluk  |
|          |   | Erode Taluk  |
|          |   | Gobichettipalayam Taluk                                      |
|          |   | Kodumudi Taluk   |
|          |   | Modakurichi Taluk  |
|          |   | Perundurai Taluk   |
|          |   | Sathyamangalam Taluk   |
|          |   | Talavadi Taluk   |
|          |   | Nambiyur taluk   |

| S.<br>No | Farming system/enterprise |                |                             |  |  |
|----------|---------------------------|----------------|-----------------------------|--|--|
| 1        | Command Area:             | Rice           | – Sesame                    |  |  |
|          |                           | Sugarcane      | – Ratoon                    |  |  |
|          |                           | Turmeric       | – Rice                      |  |  |
|          |                           | Banana         | – Ratoon                    |  |  |
|          |                           | Groundnut      | – Rice – Maize              |  |  |
| 2        | Well Irrigated Area:      | Turmeric       | – Maize / Chillies / Tomato |  |  |
|          |                           | Rice           | – Cotton                    |  |  |
| 3        | Rainfed Area:             | Maize/Sorghum  | – Pulses                    |  |  |
|          |                           | Redgram/castor | – Fallow                    |  |  |

# 2.1. Major farming systems/enterprises (based on the analysis made by the KVK)

# 2.2. Description of Agro-climatic Zone & major agro ecological situations (based on soil and topography)

| S.<br>No | Agro-climatic Zone   | Characteristics   |
|----------|----------------------|---|
| 1        | Southern plateau and | The district comes under the agro-climatic zones of southern plateaus and hills.    |
|          | hills                | A major part of the district is covered with red soils. Alluvial soils are found in |
|          |                      | small patches along Noyyal and Bhavani rivers. The district forms part of           |
|          |                      | Cauvery river basin and is blessed with a network of rivers viz., Bhavani,          |
|          |                      | Noyyal, Amaravathi and their tributaries. The river Cauvery flows along the         |
|          |                      | eastern border of the district. The normal rainfall of the district is 717 mm.      |

# 2.3. Soil types

| S. No | Soil type                               | Characteristics   | Area in ha |
|-------|---|---|------------|
| 1     | Red soil (Alfisol,<br>Entisol, Ultisol) | <ul> <li>Soil rich in iron and aluminum oxides</li> <li>Poor in water holding capacity</li> <li>Soil pH varies from 5.5 – 8.5</li> <li>EC ranges from 0.050 to 0.250dSm<sup>-1</sup></li> <li>Fertility rating – low nitrogen, medium phosphorus and high in potassium</li> </ul> | 3, 42,800  |
| 2     | Black soil (Vertisol,<br>Entisol)       | <ul> <li>Black in colour</li> <li>Good in water holding capacity</li> <li>Soil pH varies from 7.5 – 8.7</li> <li>EC ranges from 0.150 to 0.450dSm<sup>-1</sup></li> <li>Fertility rating – low nitrogen, low phosphorus and medium in potassium</li> </ul>                        | 1, 79,562  |
| 3     | Alluvial soil                           | <ul> <li>Medium in water holding capacity</li> <li>Soil pH varies from 6.5 – 8.0</li> <li>EC ranges from 0.120 to 0.370dSm<sup>-1</sup></li> <li>Fertility rating – low nitrogen, medium phosphorus and medium in potassium</li> </ul>  | 65,295     |
| 4     | Forest soil                             | Rich in sesqui oxides   | 2, 28,543  |

# 2.4. Area, Production and Productivity of major crops cultivated in the district (or the jurisdiction as the case may be) for 2021

| S. No | Сгор      | Area (ha) | Production (Qtl) | Productivity (Qtl /ha) |
|-------|-----------|-----------|------------------|------------------------|
| 1     | Paddy     | 48492     | 1380900.00       | 49.69                  |
| 2     | Ragi      | 5512      | 1479700.00       | 26.29                  |
| 3     | Maize     | 10214     | 781518.40        | 76.51                  |
| 4     | Redgram   | 1462      | 16310            | 11.16                  |
| 5     | Blackgram | 658       | 5803.60          | 8.82                   |
| 6     | Greengram | 468       | 3320             | 7.10                   |
| 7     | Sugarcane | 7107      | 8315190          | 1170                   |
| 8     | Groundnut | 14979     | 352006.50        | 23.50                  |
| 9     | Sesame    | 452       | 4330.16          | 9.58                   |
| 10    | Turmeric  | 12837     | 651090.00        | 50.64                  |
| 11    | Tapioca   | 5892      | 2371600.00       | 402.51                 |
| 12    | Banana    | 5246      | 1593560.00       | 551.49                 |
| 13    | Onion     | 1275      | 1300300.00       | 101.98                 |

# Kharif

#### Rabi

| S. No | Сгор      | Area (ha) | Production (Qtl) | Productivity (Qtl /ha) |
|-------|-----------|-----------|------------------|------------------------|
| 1     | Paddy     | 22837     | 376810.00        | 49.69                  |
| 2     | Ragi      | 117       | 2926.00          | 25.01                  |
| 3     | Maize     | 4348      | 279141.60        | 64.20                  |
| 4     | Blackgram | 595       | 5426.40          | 9.12                   |
| 5     | Sugarcane | 5140      | 6116400.00       | 1190.00                |
| 6     | Groundnut | 2350      | 56517.50         | 24.05                  |
| 7     | Sesame    | 3041      | 29558.52         | 9.72                   |
| 8     | Tapioca   | 810       | 313794.00        | 387.40                 |
| 9     | Banana    | 4190      | 2019580.00       | 482.00                 |

#### Summer

| S. No | Сгор      | Area (ha) | Production (Qtl) | Productivity (Qtl /ha) |
|-------|-----------|-----------|------------------|------------------------|
| 1     | Groundnut | 1650      | 37950.00         | 23.00                  |
| 2     | Sesame    | 1800      | 17460.00         | 9.70                   |
| 3     | Cowpea    | 917       | 6240.00          | 6.80                   |
| 4     | Jowar     | 44        | 880.00           | 20.00                  |

#### 2.5. Weather data

| Month          | Rainfall (mm) | Tempera | ature <sup>0</sup> C | Relative Humidity (%) |
|----------------|---------------|---------|----------------------|-----------------------|
|                |               | Maximum | Minimum              |                       |
| January 2021   | 59.74         | 31.2    | 20.2                 | 66.4                  |
| February 2021  | 20.38         | 32.5    | 23.3                 | 63.1                  |
| March 2021     | 00.00         | 35.4    | 22.3                 | 68.3                  |
| April 2021     | 99.73         | 37.2    | 26.4                 | 62.1                  |
| May 2021       | 49.04         | 35.7    | 27.1                 | 63.4                  |
| June 2021      | 35.34         | 34.4    | 21.2                 | 65.2                  |
| July 2021      | 62.98         | 36.1    | 24.7                 | 63.2                  |
| August 2021    | 80.64         | 34.2    | 25.2                 | 66.1                  |
| September 2021 | 76.71         | 36.2    | 23.1                 | 67.7                  |
| October 2021   | 283.67        | 35.3    | 21.0                 | 73.6                  |
| November 2021  | 180.49        | 31.2    | 23.2                 | 63.4                  |
| December 2021  | 53.84         | 28.7    | 21.2                 | 61.3                  |

# 2.6. Production and productivity of livestock, Poultry, Fisheries etc. in the district (2021)

| Category    | Population | Production (000 tones) | Productivity  |
|-------------|------------|------------------------|---------------|
| Cattle      | 398572     | 212.402                | 2.32 lit/day  |
| Crossbred   | 250385     | 175.057                | 3.026 lit/day |
| Indigenous  | 148187     | 37.345                 | 1.091 lit/day |
| Buffalo     | 230004     | 102.302                | 2.11 lit/day  |
| Sheep       | 560015     | 346 tons               | -             |
| Goats       | 562270     | 685.81 tons            | -             |
| Pigs        | 7288       | -                      | -             |
| Poultry     | 5180399    | -                      | -             |
| Desi        | -          | 194.51 lakhs eggs      | -             |
| Improved    | -          | 9376.49 lakhs eggs     | -             |
| Ducks       | 68193      | -                      | -             |
| Category    | Area       | Production (tones)     | Productivity  |
| Inland fish | -          | 520.16                 | -             |

# 2.7. Details of Adopted Villages

| S.<br>No. | Taluk/<br>Mandal | Name of the<br>block | Name of the<br>village                  | Year of<br>adoption | Major<br>crops &<br>enterprises | Major problem<br>identified   | Identified<br>Thrust Areas                  |
|-----------|------------------|----------------------|---|---------------------|---------------------------------|---|---|
| 1         | TN Palayam       | TN Palayam           | Kallipatti                              | 2019                | Paddy                           | Micronutrient deficiencies  | Method<br>demonstrations,<br>awareness camp |
| 2         | Ammapet          | Ammapet              | Kurichi                                 | 2017                | Pulses                          | Non adoption of<br>ICM practices &<br>Poor yield                        | Training &<br>Method<br>demonstrations      |
| 3         | Perundurai       | Perundurai           | Polaniacken<br>palayam &<br>Varapalayam | 2021                | Groundnut                       | Poor soil fertility<br>and pod<br>development                           | Training &<br>Method<br>demonstrations      |
| 4         | Chennimalai      | Chennimalai          | Vellode                                 | 2021                | Paddy                           | Seasonal<br>occurrence of Pest<br>and diseases                          | FLD / Training /<br>Field day               |
| 5         | ,,               | ,,                   | Vellode                                 | 2021                | Vegetables                      | Unaware of Dish<br>Garden system in<br>vegetable<br>cultivation         | FLD / Training /<br>Field day               |
| 6         | ,,               | ,,                   | Varapalayam                             | 2021                | Farm<br>Machinery               | Lack of awareness<br>on farm<br>machineries for<br>Stone Remover        | Training                                    |
| 7         | Gobi             | Gobi                 | Kotupuallmpal<br>ayam                   | 2021                | Marigold                        | Lack of awareness<br>on new variety                                     | OFT/Training /<br>Experience<br>Sharing     |
| 8         | "                | "                    | Nadgadevampa<br>layam                   | 2020                | Tapioca                         | Lack of awareness<br>on new variety                                     | OFT/Training /<br>Experience<br>Sharing     |
| 9         | Anthiyur         | Anthiyur             | Thurusanam<br>palayam                   | 2018                | French<br>beans                 | Lack of awareness on new variety  | FLD / Training /<br>Field day               |
| 10        | Sathy            | Talavadi             | Talavadi                                | 2020                | Rosemary                        | Lack of awareness on new variety  | FLD / Training /<br>Field day               |
| 11        | Kodumudi         | Modakurichi          | Pasur and<br>Elumathur                  | 2019                | Groundnut                       | Yield loss due to<br>leaf miner<br>incidence and<br>nutrient deficiency | FLD / Training /<br>Field day               |
| 12        | Gobi             | T.N.Palayam          | Kongarpalaya<br>m                       | 2020                | Cassava                         | Micronutrient<br>deficiency   | OFT/Training /<br>Experience<br>Sharing     |
| 13        | Gobi             | Gobi                 | Koogalur                                | 2020                | Sugarcane                       | Micronutrient<br>deficiency   | FLD/Training/<br>Field<br>Day               |
| 14        | Anthiyur         | Ammapet              | Poosariyur                              | 2021                | Blackgram                       | Nutrient deficiency   | FLD/Training/<br>Field<br>Day               |

| S.<br>No. | Taluk/<br>Mandal | Name of the<br>block | Name of the<br>village | Year of<br>adoption | Major<br>crops &<br>enterprises              | Major problem<br>identified   | Identified<br>Thrust Areas                |
|-----------|------------------|----------------------|------------------------|---------------------|--|---|---|
| DFI       | villages         |                      |                        |                     |  |   |   |
| 1         | Anthiyur         | Anthiyur             | Koochikallur           | 2020                | Nutrition<br>garden                          | Lack of<br>consumption of<br>vegetables   | Training and demonstration                |
| 2         | >>               | >>                   | "                      | 2020                | Blackgram,<br>Maize                          | IPM for FAW and<br>YMV resistant<br>variety                                       | Assessment,<br>Training,<br>Demonstration |
| 3         | Gobi             | TN Palayam           | Singiripalayam         | 2020                | Paddy  | Imbalanced nutrient application   | Training and awareness camp               |
| 4         | >>               | ,,                   | ,,                     | 2019                | Decentraliz<br>ed<br>production<br>of inputs | Non adoption of technical guidance  | Method<br>demonstration                   |
| 5         | "                | "                    | "                      | 2021                | Cotton                                       | High crop weed competition  | Training and demonstrations               |
| 6         | >>               | ,,                   | ,,                     | 2021                | Farm<br>Machinery                            | Lack of awareness<br>on farm<br>machineries for<br>Inter cultivator cum<br>Ridger | Training and demonstrations               |
| 7         | >>               | "                    | "                      | 2018                | Vertical<br>farming<br>system                | Lack of knowledge<br>on vertical farming<br>system                                | Training,<br>Demonstration,               |
| 8         | "                | >>                   | "                      | 2021                | Paddy  | Deficiencies of micronutrients  | OFT, Training,<br>Experience<br>sharing   |
| 9         | >>               | ,,                   | "                      | 2020                | Paddy,<br>Turmeric                           | Lack of knowledge<br>about soil sampling<br>techniques                            | Soil health camp                          |

## 2.8. Priority/thrust areas

| Crop/Enterprise              | Thrust area  |
|------------------------------|--|
| Cassava                      | Micronutrient management practices for yield enhancement               |
| Sugarcane                    | Micronutrient management practices                                     |
| Blackgram                    | Integrated Nutrient Management   |
| Jasmine                      | Management for Blossom midge infestation                               |
| Blackgram                    | IPM – Yellow vein mosaic virus resistant variety                       |
| Cotton                       | Inter cropping system for weed management (Assessment & Demonstration) |
| Marigold                     | Varietal assessment  |
| Medicinal crops              | Varietal assessment (Rosemary and Vetiver)                             |
| Banana                       | Varietal assessment  |
| Entrepreneurship development | Mushroom production  |
| Value addition               | Millets  |
| Таріоса                      | Introducing new variety  |
| Frenchbean                   | Introducing new variety  |
| Farm mechanization           | Stone remover; Inter cultivator cum Ridger                             |
| Vegetables                   | Vertical system for cultivation of vegetables                          |
| Medicinal plants             | Demonstration on Immune boosting herbal garden                         |

# **<u>3. SALIENT ACHIEVEMENTS</u>**

| S.No | Activity   | Target  | Achievement |
|------|--|---------|-------------|
| 1.   | Technologies Assessed and refined (No.)                              | 10      | 10          |
| 2.   | On-farm trials conducted (No.)                                       | 39      | 39          |
| 3.   | Frontline demonstrations conducted (No.)                             | 59      | 59          |
| 4.   | Farmers trained (in Lakh)  | 0.012   | 0.039       |
| 5.   | Rural Youths trained (in Lakhs)                                      | 0.00170 | 0.00471     |
| 6.   | Extension Personnel trained (No.)                                    | 0.00490 | 0.00535     |
| 7.   | Participants in extension activities (in Lakh)                       | 0.1258  | 0.2666      |
| 8.   | Production and distribution of Seed (in Quintal)                     | 10      | 15.5        |
| 9.   | Planting material produced and distributed (in Lakh)                 | 0.20    | 0.43        |
| 10.  | Production of Bio Products (in Kg)                                   | 7250    | 1375        |
| 11.  | Production of Micro Nutrient (in Kg)                                 | 4500    | 5188        |
| 12.  | Livestock strains and finger lings produced and distributed (in No.) | -       | -           |
| 13.  | Soil samples tested by Mini Soil Testing Kit (No)                    | 1000    | 137         |
| 14.  | Soil samples tested by Traditional Laboratory (No)                   | 2000    | 4240        |
| 15.  | Water, plant, manure and other samples tested (No.)                  | 750     | 328         |
| 16.  | Mobile agro-advisory provided to farmers (No.)                       | 75      | 50          |
| 17.  | No. of Soil Health Cards issued by Mini Soil Testing Kits (No.)      | 1000    | 137         |
| 18.  | No. of Soil Health Cards issued by Traditional Laboratory (No.)      | 2000    | 4240        |

## Achievements of Mandated activities (1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021)

#### Salient Achievements by KVK during the year in Bullet points:

- KVK established Waste Decomposer Production unit, produced **24114 litres of NCOF waste decomposer** with 6 decentralized production units established in the DFI villages with the support of Krishi Mitras. Total **3728 farmers benefited** in the district.
- In coordination with MANAGE, Hyderabad and SAMETI, Tamilnadu, KVK conducted skill training to Input Dealers (DAESI) by covering **40 input dealers** (seed, pesticide and fertilizer)
- 4 trainings organized for Extension officials on importance of **immune boosting garden** at household, backyard kitchen gardening, integrated farming system and Dryland agriculture techniques
- Convergence of programme with resource agency and mobilised sum of Rs.1,14,16,644/- during 2021
- KVK supported **210 rural youths** through ARYA programme Desi bird production, bio inoculants production, value addition in banana and honey enterprises.
- KVK promoted **8 FPOs** in the district for Paddy, Banana, Coconut, Millet, Groundnut and Milk value addition activities. Facilitated for mobilizing Rs. 2,45,60,000/- value of funds to established millet value addition processing center, vegetable preservation, Weather station (IoT technology) and Milk value addition processing unit
- KVK in coordination with Indian Forest Genetic and Tree Breeding (IFGTB), Coimbatore conducted **method demonstration on Cadamba tree**
- KVK received recognition for Best KVK in the Zone X in the respect of Best Performance of Soil & Water Testing Laboratory, Best Implementation of NFSM demonstration and Best programme implementation of Swachhata activities
- KVK promoted **10 farmers, entrepreneurs and innovators received Award** for their contribution in the field of agriculture, entrepreneurship activities and innovations
- In coordination with ICAR ATARI Zone X, Hyderabad and National Bee Board, New Delhi, KVK conducted 3 trainings on Scientific bee keeping techniques for farmers and rural youths by covering 75 participants from Arepalayam Village of Talavadi Block, Thattachankarai vazhi village of Chennimalai Block and Salaipudhur village of Kodumudi Block
- In coordination with NABARD, Chennai, KVK conducted **3 skill training on Value addition in milk and by products** under Livelihood Entrepreneurship Development Programme (LEDP)
- In coordination with NABARD, Chennai, KVK conducted skill training on Craft making from *Lantana camara* for Tribal development
- 31 successful technologies and also impact has been documented
- 162 Success Stories documented in Doubling Farmers Income village
- 30 Success stories documented during the year 2021

# **4. TECHNICAL ACHIEVEMENTS**

# 4.1 Details of target and achievements of mandatory activities by KVK during 2020

| No. of OFTs |             | Number o | of technologies Number of locations<br>(Villages) |         | of locations illages) | Total no. of Trials /<br>Replications /<br>Beneficiaries |             |
|-------------|-------------|----------|---|---------|-----------------------|--|-------------|
| Targets     | Achievement | Targets  | Achievement                                       | Targets | Achievement           | Targets  | Achievement |
| Ingets      |             | 0        |   | U       |                       | 0  |             |

# OFT (Technology Assessment)

#### FLD (crop/enterprise/CFLDs)

| No of Demonstrations Area in ha |             | Number of Farmers / Beneficiaries / Replications |             |         |             |
|---------------------------------|-------------|--|-------------|---------|-------------|
| Targets                         | Achievement | Targets  | Achievement | Targets | Achievement |
| 21                              | 21          | 60   | 60          | 195     | 195         |

#### Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)

| Ν                      | Number of Participants |             |         |             |
|------------------------|------------------------|-------------|---------|-------------|
| Clientele              | Targets                | Achievement | Targets | Achievement |
| Farmers and Farm Women | 74                     | 104         | 2500    | 3999        |
| Rural youth            | 9                      | 18          | 250     | 471         |
| Extn. Functionaries    | 14                     | 11          | 650     | 535         |

#### **Extension Activities**

| Nun      | nber of activities | Number of participants |             |  |
|----------|--------------------|------------------------|-------------|--|
| Targets  | Achievement        | Targets                | Achievement |  |
| 887 1223 |                    | 12580                  | 26666       |  |

#### Seed Production (q)

| Target | Achievement | Distributed to no. of farmers |
|--------|-------------|-------------------------------|
| 10     | 15.5        | 75                            |

#### Planting material (Nos.)

| Target | Achievement | Distributed to no. of farmers |
|--------|-------------|-------------------------------|
| 20000  | 43000       | 126                           |

# 4.2 Technology Assessments (OFTs) in Detail

#### OFT:1

| 1. Thematic area       | : | Integrated Crop Management   |
|------------------------|---|--|
| 2. Title               | : | Assess the Performance of inter cropping system in cotton for<br>enhancing profitability |
| 3. Scientists involved | : | SMS (Agronomy)   |

#### 4. Details of farming situation:

The trial was laid out during Rabi 2020 at Singiripalayam village of TN Palayam block, Erode district and the sowing was taken up in the month of October 2020 under irrigated farming situations. The soil of the trial plots are red loamy in nature. 642 mm of rainfall received during the cropping period with 15 rainy days.

#### 5. Problem definition / description:

Cotton is an important fibre crop cultivated in Erode district over 1000 ha area. The farmers are cultivating hybrids with 120cm x 45cm spacing and the inter space are not been utilized effectively which leads to weed growth and crop weed competition against main crop. To address this, KVK proposed the trial on assessing the inter cropping system in cotton for enhancing the profitability with effective utilization of inter space.

#### 6. Technology Assessed:

| Farmer Practice     | : | Cotton pure crop    |
|---------------------|---|---------------------|
| Technology Option-1 | : | Cotton + Radish     |
| Technology Option-2 | : | Cotton + Black gram |

#### 7. Critical inputs given:

| Sl.No | Critical inputs  | Quantity (Kg) | Value (Rs) |
|-------|------------------|---------------|------------|
| 1     | Radish seeds     | 500 grams     | 1200       |
| 2     | Black gram seeds | 4 kg          | 520        |
| 3     | Micronutrients   | 3 kg          | 600        |

#### 8. Results:

#### Table : Performance of the technology

| Technology Option                   | No.of<br>trials | Yield (q/ha)                     | Net Returns<br>(Rs./ha) | B:C ratio |
|-------------------------------------|-----------------|----------------------------------|-------------------------|-----------|
| Farmers Practice                    |                 | Cotton – 18.94                   | 72,258.00               | 1.83      |
| Cotton as pure crop                 |                 |                                  |                         |           |
| Technology 1                        |                 | Cotton – 18.99;                  | 100870.00               | 2.13      |
| Cotton + Radish                     | 4               | Radish – 48.56                   |                         |           |
| Technology 2<br>Cotton + Black gram |                 | Cotton – 19.10;<br>B. Gam – 2.28 | 86602.50                | 1.99      |
|                                     |                 | D. Gain 2.20                     |                         |           |

#### Data on other parameters

| Technology Option                      | Crop Equivalent Yield<br>(Q/ha) | Weed Smothering<br>Efficiency(%) |
|--|---------------------------------|----------------------------------|
| Farmers Practice - Cotton as pure crop | 18.94                           |                                  |
| Technology 1 - Cotton + Radish         | 22.60                           | 32.10                            |
| Technology 2 - Cotton + Black gram     | 20.69                           | 26.17                            |

#### **Description of the results:**

The on farm trial on "The Performance of inter cropping system in cotton for enhancing profitability" was taken up during the Rabi season 2020 in 4 farmer's field at singiripalayam village of Gobichettipalayam Taluk, Erode district. Before implementation of the trial, the farmers were trained on various aspects of cotton cultivation and importance of inter cropping system in cotton for enhancing the profitability. The farmers were provided with seeds of intercrops like radish, black gram and micro nutrients for the same. The farmers were adopted 120 x 60 cm spacing for cotton cultivation and the interspace utilized for raising intercrops. The scientists from KVK provided regular advisory services time to time for efficient implementation of the trial.

The trial indicated that, the raising of different intercrops in the cotton field reduces the weed growth, not to competitive with main crop and provides income to the farmers at regular intervals. It was observed that, the multitier crops smother the weed growth effectively and recorded 32.10 percent weed smothering efficiency in Technology Option 1 and 26.17 percent weed smothering efficiency in Technology Option 2.

The trial revealed that the farmers harvested the seed cotton yield of 1.89 t/ha in the farmers practice and 1.99t/ha in the Technology Option1 and 48.56 quintal of radish yield; 1.91 ton of seed cotton yield, 2.28 quintal of black gram yield in Technology Option 2.

The crop equivalent yield was worked out based on the existing market price of cotton. The crop equivalent yield of Cotton intercropped with radish was recorded as 22.60 quintal whereas in 20.69 quintal in cotton intercropped with black gram field.

#### **Constraints faced:**

Care should be taken during the initial stage of weeding i.e., first hand weeding at 15 - 20 days after sowing, since the intercrops are very young, the labourers (weeding operations) are not able to identify the intercrops properly and consider them as a weed crop.

#### 9. Feed back of the farmers involved:

The farmers felt that, inter cropping system in cotton reduces the weed growth and provided the additional income. Though the technology was provided additional income, growing of inter crops in between the cotton crops need care during the initial stage especially in vegetable crops or proper orientation needs to the agricultural laborer at the time of weeding.

#### 10. Feed back to the scientist who developed the technology:

Inter cropping systems are dynamic interactive practices aimed at better use of the production components like soil, water and nutrients. The noncompetitive crops like black gram and radish in the cotton inter cropping system were advantageous in terms of weed smothering efficiency, net return and employment opportunity to the family members.

| <b>OFT: 2</b>          |   |  |
|------------------------|---|--|
| 1. Thematic area       | : | Varietal assessment  |
| 2. Title               | : | Assess the performance of Marigold varieties<br>(L-3, Arka Shakti (MOH 1-2) and Arka Abha (MOH 5-3) for higher<br>productivity |
| 3. Scientists involved | : | SMS (Horticulture)   |

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#### 4. Details of farming situation:

The farmers selected from Karattadipalayam village of Gobichettipalayam block in Erode District. The Marigold crop are cultivated under irrigation system with red sandy loamy soil. The Marigold crop was cultivated under the red soils. The crop has been planted in the Kharif season by first fortnight of August 2021. The seeds were received from IIHR, Bangalore.

#### 5. Problem definition / description:

Marigold is one of the most commonly grown flowers for garden decoration and extensively used as loose flowers for making garlands for religious and social functions. Marigold is cultivated in about 5000 ha in the district under irrigated condition Major variety is L-3 (AVT) - susceptible to thrips *spotaptera litura* and leaf spot; low yield (18-20 t/ha) which resulted more cultivation cost and yield reduction. The farmers expected suitable new variety with profuse sympodial branch growth and resistant to pest diseases infestation. Based on that, KVK proposed On Farm Trail, "Assess the performance of Marigold varieties (L-3, Arka Shakti (MOH 1-2) and Arka Abha (MOH 5-3) for higher productivity. Newly released Marigold varieties are high yielding.

#### 6. Technology Assessed:

| Farmer's practices  | : | L-32                  |
|---------------------|---|-----------------------|
| Technology Option 1 | : | Arka Shakti (MOH 1-2) |
| Technology Option 2 | : | Arka Abha (MOH 5-3)   |

#### 7. Critical inputs given:

| Sl.No | Critical inputs | Quantity (In Kgs) | Value (Rs) | The farmers supported with  |
|-------|-----------------|-------------------|------------|-----------------------------|
| 1.    | Marigold seeds  | 250 Grams         | 2,500      | Rs.2,500 worth disease free |
|       |                 |                   |            | seeds                       |

#### 8. Results:

#### Table : Performance of the technology

| Technology Option                          | No.of<br>trials | Yield<br>(Q/ha) | Net Returns<br>(Rs./ha) | BC ratio |
|--|-----------------|-----------------|-------------------------|----------|
| Farmer practices: L-32                     | 2               | 180             | 99503                   | 1.57     |
| Technology Option 1: Arka Shakti (MOH 1-2) |                 | 280             | 185000                  | 1.80     |
| Technology Option 2: Arka Abha (MOH 5-3)   |                 | 240             | 160903                  | 1.67     |

## **Description of the results:**

The trial on "Assess the performance of Marigold varieties (L-3, Arka Shakti (MOH 1-2) and Arka Abha (MOH 5-3) for higher productivity "was taken up during the Kharif season 2021 in 2 farmers field in Karattadipalayam of Gobi block of Erode District. Before implementation of the trails, the selected farmers trained on recent cultivation technology of Marigold. The farmers were provided with good quality seedlings and farmers asked to raise the seedlings in pro tray system for quality production of seedlings. The farmers extended with regular technical advice from KVK and maintain the crop growth in healthy conditions.

The trials indicated that the crop harvested in 2 months after plantation. The crop yield recorded such as 280 Q/ha, 240 Q/ha and 180 Q/ha in T-1 plot, T-2 plot and FP in plot respectively.

## 9. Feedback of the farmers involved:

Marigold variety - Arka Shakti (MOH 1-2 variety was recorded better yield when compare to other two plots.

#### 10. Feed back to the scientist who developed the technology:

Availability of the planting materials to the farmers is the need of the hour to spread the variety throughout the area. The progressive farmers will be selected with the support of research institution for production of planting materials in the need villages and supplied to the farmers to adopt this technology in larger area.

#### **OFT-3:**

| 1. Thematic area       | : | Varietal assessment  |
|------------------------|---|--|
| 2. Title               | : | Assess the Performance of Rosemary variety (Ooty -1) for higher productivity |
| 3. Scientists involved | : | SMS (Horticulture)   |

#### 4. Details of farming situation:

The farmers selected from Gettavadi and Kalmandipuram villages of Talavadi block in Erode District. The rosemary crops are cultivated under irrigation system. The rosemary crop was cultivated under the red soils. The crop planted in the Kharif season by first fortnight of July 2021. The planting materials used as rooted cutting. The trial farmers linked with CMRC and FPO for further area expansion. During the season, the block receives a cumulative rainfall of 325.7 mm with 22 rainy days.

#### 5. Problem definition / description:

Rosemary (herbal spices) crop is an important commercial crop in Erode district with the coverage of round 500 ha area with local variety. Since, the rosemary crop cultivated as a main crop and takes 6 months for yielding after planting. Since, the local variety are not thrive well in Talavadi climatic condition and sustainable to pest and disease, which resulted more cultivation cost and yield reduction. The farmers expected suitable new variety with profuse sympodial branch growth and good essential oil content, suppress the weed growth and resistant to pest diseases infestation. Based on that, KVK proposed On Farm Trail, "Assess the preference of rosemary new variety (Ooty-1) for higher productivity.

#### 6. Technology Assessed:

| Farmer's practices  | : | Local variety |
|---------------------|---|---------------|
| Technology Option 1 | : | Ooty -1       |
| Technology Option 2 | : | Ooty local    |

#### 7. Critical inputs given:

| Sl.No | Critical inputs | Quantity (In Kgs) | Value (Rs) | The farmers supported with     |
|-------|-----------------|-------------------|------------|--------------------------------|
| 1.    | Rosemary Rooted | 10000             | 40000.00   | Rs.40000.00 worth disease free |
|       | cutting         |                   |            | rooted cutting                 |

#### 8. Results:

#### Table : Performance of the technology

| Technology Option        | No.of<br>trials | Yield (Q/ha) | Net Returns<br>(Rs./ha) | BC ratio |
|--------------------------|-----------------|--------------|-------------------------|----------|
| Farmer practices:        | 2               | 70           | 90000                   | 1.43     |
| Rosemary (Local variety) |                 |              |                         |          |
| Technology Option 1:     |                 | 120          | 250000                  | 1.69     |
| Rosemary (Ooty -1)       |                 |              |                         |          |
| Technology Option 2:     |                 | 90           | 150000                  | 1.56     |
| Rosemary (Ooty local)    |                 |              |                         |          |

#### **Description of the results:**

The trial on "Asses the performance of Rosemary Variety (Ooty -1) for higher productivity "was taken up during the Kharif season 2021 in 2 farmers field in Gettavadi and Kalmandipuram of Talavadi block of Erode District. Before implementation of the trials, the selected farmers were trained on scientific cultivation technology of rosemary, mulching technology and drip irrigation system. The farmers provided with good quality rooted cuttings, and farmers asked to adopt the rooted cuttings treatment with bio fungicides and bio fertilizers. The farmers extended with regular technical advice from KVK and maintain the crop growth in healthy conditions.

Through convergence, the farmers linked with HOPE IN NILGIRIS, Ooty, NABARD and Department of Horticulture trial farmers avail the scientific back stopping and subsidy component for drip and poly mulching Since marketing is an important in rosemary crop and buyback arrangement was made with Hope In Nilgiris, Ooty. The expert from Hope in Nilgiris, Ooty visited and conducted pest and disease surveillance in the trial plots for further dissemination of the crop. The training program organized by NABARD, Erode on 23.08.2021 at Talavadi and 100 farmers were participated. The growth and yield attributes like Individual plant, per plant-harvested weight, plant height, yield and pest & disease incidence were recorded.

The trials indicated that the crop harvested in 6 months after plantation. The crop yield of rosemary as 120 Q/ha, 90 Q//ha and 70 Q/ha in T-1 plot, T-2 plot and FP in plot were recorded respectively.

#### 9. Feedback of the farmers involved:

Rosemary Ooty -1 variety was recorded better yield, cultivation cost and pest and disease incidence was reduced, which was observed in T-1 plot.

#### 10. Feed back to the scientist who developed the technology:

Availability of the planting materials to the farmers is the need of the hour to spread the variety throughout the area. The progressive farmers will be selected with the support of research institution for production of planting materials in the need villages and supplied to the farmers to adopt this technology in larger area.

#### OFT-4:

| 1. Thematic area       | : | Varietal Assessment  |
|------------------------|---|--|
| 2. Title               | : | Assess the Performance of Banana variety (CO-2) for higher<br>Productivity |
| 3. Scientists involved | : | SMS (Horticulture)   |

#### 4. Details of farming situation:

The trial laid out during Rabi 2020 at Karattadipalayam village of Gobichettipalayam block, Erode district and the planting taken up in the month of October 2020 under irrigated farming situations. The soil of the trial plots are red sandy in nature with available abundant soil nutrient content. 152.9 mm of rainfall received during the cropping period. The planting suckers were received from HC&RI, TNAU, Coimbatore and treated with *Pseudomonas fluorescence* for 15 minutes

#### 5. Problem definition / description:

Banana is the major Horticulture crop cultivated in Erode district around 20,000ha, of which 55% area was covered by Neypoovan variety compare to other varieties like, Red banana, Nendran, Karpooravalli and cultivated under irrigated situation. Continuous cultivation of same and old variety, which is not tolerant to Banana wilt disease, leads to yield reduction. The farmers are not aware of the latest variety released by TNAU. Hence, KVK proposed the OFT on Assess the Performance of Banana variety (CO-2) for higher productivity

#### 6. Technology Assessed:

.

| Farmer Practice      | : | Red banana |
|----------------------|---|------------|
| Technology Option-1  | : | CO-2       |
| Technology option -2 | : | Neypoovan  |

#### 7. Critical inputs given: (along with quantity as well as value)

| Sl.No | Critical inputs     | Quantity (Numbers) | Value (Rs) |
|-------|---------------------|--------------------|------------|
| 1     | Suckers             | 50                 | 1000.00    |
| 2.    | Arka banana special | 5 Kgs              | 1000.00    |

#### 8. Results:

#### **Table : Performance of the technology**

| Technology Option                 | No.of<br>trials | Yield (Q/ha) | Net Returns (Rs.<br>/ha) | B:C ratio |
|-----------------------------------|-----------------|--------------|--------------------------|-----------|
| Farmers Practice: Red banana      |                 | 210          | 210000.00                | 1.60      |
| Technology option -1 : CO-2       | 2               | 300          | 360000.00                | 1.80      |
| Technology option -2 : Ney poovan |                 | 240          | 260000.00                | 1.69      |

| Technology option    |        | Other parameters |                |  |  |
|----------------------|--------|------------------|----------------|--|--|
|                      | Bunch  | No. of           | No. of fruits/ | Disease infestation                        |  |
|                      | weight | hands            | bunch          |  |  |
|                      | (Kg)   |                  |                |  |  |
| Farmers Practice:    | 11-12  | 6                | 70-75          | Resistant to nematode, lesser incidence of |  |
| Red Banana           |        |                  |                | sigatoka leaf spot and fusarium wilt       |  |
| Technology Option- 1 | 12-13  | 12-14            | 150-160        | Tolerance to nematode, lesser incidence of |  |
| CO-2                 |        |                  |                | sigatoka leaf spot and fusarium wilt.      |  |
| Technology Option-2  | 10     | 11-12            | 140-145        | Resistant to nematode, lessor incidence of |  |
| Ney poovan           |        |                  |                | sigatoka leaf spot and fusarium wilt       |  |

#### **Table: Data on Other Parameters:**

#### **Description of the results:**

The on farm trial on "Assess the Performance of Banana variety (CO-2) for higher productivity was taken up in Karattadipalayam village of Gobichettipalayam taluk, Erode district where the farmers are cultivating Banana with various varieties under irrigated condition. Before implementation of the trial, the training programme was organized on production technology of Banana and importance ad characteristic features of CO-2 variety for selected farmer. The trial was taken up in October 2020 and Harvested on August 2021. During the cropping period, KVK Scientists monitored the plots for surveillance of crop regarding crop growth, pest and diseases infestation bearing capacity of plant.

From the trial observation recorded that, CO-2 variety tolerance to nematode, lesser incidence of sigatoka leaf spot and fusarium wilt compare to other two varsities . It was observed that, on an average 150 -160 fingers/ bunches produced in CO-2 variety, 140-145 fingers/ bunch produced in Ney poovan variety and 70-75 finger / bunches produced in farmer practices plot.

The highest BCR of 1.80 was recorded in CO-2 variety, 1.69 BCR recorded in Ney poovan variety whereas 1.60 BCR recorded in farmers practice plot. From the results of trials, the CO-2 variety improved the income and performance in local climatic condition. Based on the performance, KVK has initiated to popularize that variety under FLD for further area expansion in coming years.

#### 9. Feedback of the farmers involved:

The variety CO-2 performed well in terms of good yield and tolerance to nematode, lesser incidence of sigatoka leaf spot and fusarium wilt and produced more yield per bunch than the existing variety.

#### 10. Feed back to the scientist who developed the technology:

Availability of the seed material to the farmers is the need of the hour to spread the new variety in the district. KVK took initiatives on production of CO-2 suckers with support of progressive farmers and Department of Horticulture for are expansion.

#### **OFT-5:**

| 1. Thematic area       | : | Varietal assessment                                 |
|------------------------|---|---|
| 2. Title               | : | Assess the Performance of Vetiver variety (Dharani) |
| 3. Scientists involved | : | SMS (Horticulture)                                  |

#### 4. Details of farming situation:

The farmers selected from Athani villages of Anthiyur block in Erode District. The vetiver crops are cultivated under irrigation condition and soil type is red loamy. The crop planted in the Kharif season by first fortnight of September 2020. The planting materials used as rooted slips. During the season, the block receives a cumulative rainfall of 325.7 mm with 22 rainy days.

#### 5. Problem definition / description:

A dense, clumping perennial grass, to 1.5 m in height, native in India and Ceylon. In natural environment, vetiver grows on riverbanks and land up to an altitude of 600m. The grass is popular for its quality to combat soil erosion and absorb carbon dioxide, thus erasing carbon footprints. In Erode district, vetiver crop cultivated around 150 ha area with local variety. Since farmers is being cultivated local variety and not thrive well in Erode district climatic condition and susceptible to pest and disease, which resulted more cultivation cost and yield reduction. The farmers expected suitable new variety with more root and good essential oil content, suppress the weed growth and resistant to pest & diseases infestation. Based on that, KVK proposed On Farm Trail on "Assess the preference of vetiver new variety (Dharani) for higher productivity.

#### 6. Technology Assessed:

| Farmer's practices  | : | Local variety |
|---------------------|---|---------------|
| Technology Option 1 | : | Dharani       |
| Technology Option 2 | : | Sugantha      |

#### 7. Critical inputs given:

| Sl.No | Critical inputs      | Quantity (In Kgs) | Value (Rs) | The farmers supported with  |
|-------|----------------------|-------------------|------------|-----------------------------|
| 1.    | Vetiver Rooted slips | 500               | 2000       | Rs.2000/- with good variety |

#### 8. Results:

Table : Performance of the technology

| Technology Option               | No.of<br>trials | Yield (Essential<br>oil) (Q/ha) | Net Returns<br>(Rs/ha) | BC ratio |
|---------------------------------|-----------------|---------------------------------|------------------------|----------|
| Farmer practices :Local variety | 2               | 0.18                            | 144800                 | 1.57     |
| Technology Option 1: Dharani    |                 | 0.39                            | 347600                 | 1.67     |
| Technology Option 2: Sugantha   |                 | 0.197                           | 157600                 | 1.57     |

#### **Description of the results:**

The trial on "Asses the performance of Vetiver Variety (Dharani) for higher productivity "was taken up during the Kharif season 2021 in 2 farmers field in Athani of Anthiyur block of Erode District. Before implementation of the trails, the selected farmers trained on scientific cultivation technology of Vetiver cultivation. The farmers provided with good quality rooted cuttings and farmers asked to adopt the rooted cuttings treatment with bio fungicides and bio fertilizers. The farmers extended regular technical advice from KVK and maintain the crop growth in healthy conditions.

The trials indicated that the crop harvested and extracted essential oil. Essential oil yield of vetiver as 0.390 Q/ ha, 0.19 Q//ha and 0.18 Q/ha in T1 plot, T2 plot and FP in plot were recorded respectively.

#### 9. Feedback of the farmers involved:

Vetiver (Dharani) is variety was recorded better yield, with more root and good essential oil content.

#### 10. Feed back to the scientist who developed the technology:

Availability of the planting materials to the farmers is the need of the hour to spread the variety throughout the area. The progressive farmers will be selected with the support of CIMAP for production of planting materials in the need villages and supplied to the farmers to adopt the this technology in larger area

**OFT-6:** 

| 1.Thematic area        | : | Integrated Nutrient Management   |
|------------------------|---|--|
| 2. Title               | : | Assess the Performance of foliar based micronutrient mixture for<br>Yield enhancement in Cassava |
| 3. Scientists involved | : | SMS (Soil Science and Horticulture)  |

#### 4. Details of farming situation:

The trial was laid out during Kharif season 2020 at Kongarpalayam village of T.N.Palayam block, Erode district and the planting was taken up in the month of May 2020 under irrigated farming situations. The soil of the trial plots are red loamy soil in nature with the available soil nutrient level of 198 kg, 11.5 kg and 267.5 kg Nitrogen, Phosphorus, Potassium respectively.

#### 5. Problem definition / description

Cassava is an important tuber crop cultivated in Erode district over 10000 ha. area. The farmers are cultivating this crop with the application of macronutrients fertilizers only. To get profitable yield, application of micronutrients are also essential for crop production. Foliar based Micronutrient mixture will ensure the micronutrient deficiency prevailing in Cassava. Hence KVK under taken this intervention to overcome the problem and to provide appropriate technical solution by this trial to Cassava farmers.

#### 6. Technology Assessed: (give full details of technology as well as farmers practice)

| Farmer Practice     | : | Application of NPK fertilizers only                                       |
|---------------------|---|---|
| Technology Option-1 | : | Foliar spraying of Cassava special 0.5 % at 2, 3 & 4 month after planting |
|                     |   | (CTCRI, 2017)   |
| Technology Option-2 | : | Foliar spraying of 1% Iron sulphate + 0.5 % Zinc sulphate + 2% Urea       |
|                     |   | at 60, 75 & 90 days after planting (TNAU, 2016)                           |

#### 7. Critical inputs given:

| Sl.No | Critical inputs                    | Quantity  | Value (Rs) |
|-------|------------------------------------|-----------|------------|
| 1     | CTCRI Cassava special              | 20 litres | 6000       |
| 2     | Iron sulphate, Zinc sulphate, Urea | 30 kg     | 4000       |

#### 8. Results:

Table : Performance of the technology

| Technology Option                          | No. of<br>trials | Yield<br>(q/ha) | Net<br>Returns<br>(Rs./ha) | B:C<br>ratio | Other<br>Parameters<br>Starch content<br>(%) |
|--|------------------|-----------------|----------------------------|--------------|--|
| Farmers Practice: Application of NPK       |                  | 250             | 60000.00                   | 1.92         | 25   |
| fertilizers only                           |                  |                 |                            |              |  |
| Technology 1 (: Foliar spraying of Cassava |                  | 298             | 80700.00                   | 2.18         | 27   |
| special 0.5 % at 2,3 & 4 MAP)              | 5                |                 |                            |              |  |
| Technology 2 (Foliar spraying of 1% Iron   |                  | 282             | 73500.00                   | 2.09         | 26   |
| sulphate + 0.5 % Zinc sulphate + 2% Urea   |                  |                 |                            |              |  |
| at 60, 75 & 90 DAP)                        |                  |                 |                            |              |  |

#### **Description of the results:**

The on-farm trial on "Assess the Performance of foliar based micronutrient mixture for yield enhancement in Cassava" was taken up during the Kharif season 2020 in 4 farmer's field at Boothapadi and Chennapatti village of Ammapet block, Erode district. Before implementation of the trial, the farmers were trained about nutrient management in Cassava and importance of micronutrient mixture for yield enhancement in Cassava. The farmers were provided with CTCRI Cassava special and Iron sulphate, Zinc sulphate, Urea as TNAU recommendation for foliar spraying. The scientists from KVK provided regular advisory services time to time for efficient implementation of the trial.

The trial indicated that, foliar spraying of CTCRI Cassava special at three intervals significantly reduces the micronutrient deficiency and thereby increasing the yield of Cassava. Foliar spraying of CTCRI Cassava special (Technology Option 1) recorded yield of 29.8 ton/ha and 25.0 ton/ha yield recorded in farmers practice with the yield increase of 19.2 percent.

The highest Net returns (Rs.80,700/ha) and benefit cost ratio of 2.18 was recorded in Technology Option 1 whereas Rs. 60,000 /ha Net returns and 1.92 BCR recorded in farmers practice. Based on the above results, Foliar spraying of CTCRI Cassava special 0.5 % as 3 times spraying (2,3 & 4 MAP) significantly increases the tuber yield and starch content.

#### Constraints: Nil

#### 9. Feedback of the farmers involved:

Farmers actively involved in the trial and expressed that, foliar spraying of CTCRI reduces micronutrient deficiency symptoms especially boron, iron and zinc and increases tuber yield and starch content of Cassava. Since, it is a combined pack of essential micronutrients and cost effectiveness, attracting the farmers to adopt this technology.

#### 10. Feed back to the scientist who developed the technology:

CTCRI Cassava special is crop specific, combination of essential micronutrients which needed for the growth and yield improvement of Cassava. The availability of CTCRI Cassava special can be made easily available to the farmers for wider adoption of the technology.

## OFT-7

| 3. | Scientists involved : | SMS (F | Plant Protection) & SMS (Agronomy)  |
|----|-----------------------|--------|---|
| 2. | Title                 | :      | Assess the performance of Yellow Vein Mosaic Virus resistant variety<br>In Black gram |
| 1. | Thematic area         | :      | Integrated Pests Management   |

#### 4. Details of farming situation:

The farmers selected from Koochikallur DFI village in Anthiyur block and Grey nagar village in Perundurai block of the district. Black gram crop cultivated under red soil and rainfed conditions. The crop has been planted in the Kharif season by first fortnight of August 2021, by adopting the seed treatment of seeds with *Trichoderma viride* followed by sowing of seeds.

#### 5. Problem definition / description:

Black gram is the major pulse crop cultivated in the district with the coverage of 600 ha. Major problem faced by the farmer is yield loss due to yellow vein mosaic virus which is vectored by whitefly. Farmers are also not aware of the recent varieties resistant to yellow vein mosaic virus released by SAUs. KVK conducted on farming testing on the resistant varieties in Black gram crop to see its performance.

#### 6. Technology Assessed:

| Farmers Practice    | : | VBN 4  |
|---------------------|---|--------|
| Technology Option1  | : | VBN 11 |
| Technology Option 2 | : | VBN 8  |

#### 7. Critical inputs given:

| Sl. | . No | Critical inputs | Quantity  | Value (Rs) | The farmers supported with Blackgram |
|-----|------|-----------------|-----------|------------|--------------------------------------|
|     |      |                 | (Numbers) |            | seeds of VBN 11 and VBN 8 worth of   |
|     | 1.   | VBN 11 Seeds    | 20 Kgs    | 8,400.00   | Rs. 10,600.00                        |
|     | 2.   | VBN 8 Seeds     | 20 Kgs    | 2,200.00   |                                      |

#### 8. Results:

#### Table: Performance of the technology

| Technology Option        | No.of<br>trials | Yield<br>(q/ha) | Net Returns<br>(Rs. /ha) | B:C<br>Ratio | No. of<br>pods /<br>plant | Pests<br>Infestation<br>Percentage |
|--------------------------|-----------------|-----------------|--------------------------|--------------|---------------------------|------------------------------------|
| Farmers Practice : VBN 4 |                 | 7.56            | 20,682.00                | 1.86         | 24                        | 12.32                              |
| Technology 1 : VBN 11    | 7               | 8.59            | 31,520.30                | 2.26         | 42                        | 2.42                               |
| Technology 2 : VBN 8     |                 | 8.54            | 29,528.40                | 2.20         | 36                        | 3.59                               |

#### **Description of the results:**

The results reveals that the VBN 11 variety yielded 8.59 q/ha with the pests infestation percentage of 2.42; VBN 8 recorded an yield of 8.54 q/ha with the pests infestation percentage of 3.59; whereas in Farmer practice (VBN 4) the yield observed is 7.56 q/ha with the pests infestation percentage of 12.32 respectively. The benefit cost ratio of 2.26 was recorded VBN 11; whereas the BCR was 2.20 in VBN 8 and 1.86 in (VBN 4) Farmers practice respectively.

# 9. Feedback of the farmers involved:

Farmers expressed that the VBN 11 and VBN 8 varieties performed well in terms of yield and reduced the yellow vein mosaic virus disease, which is vectored by whitefly. Further farmers also felt that we will adopt this technology and share them to other fellow farmers in that region.

# 10. Feed back to the scientist who developed the technology:

University can support to make available of the VBN 11 seeds in time for wider spread. Further it requires to create awareness and training programme to educate the extension functionaries to know about the recent varieties and their performance for the wider dissemination and large scale adoption.

**OFT-8:** 

| 1. Thematic area       | : | Integrated Pests Management   |
|------------------------|---|---|
| 2. Title               | : | Assess the performance of management modules for Blossom Midge in Jasmine |
| 3. Scientists involved | : | SMS (Plant Protection) & SMS (Horticulture)                               |

#### 4. Details of farming situation:

The trial was laid out during Kharif 2021 in the farmers field under irrigated farming situations in Sivaripalayam village of Sathyamangalam Block. The soil of the trial plots were red soil in nature and adopted the spraying of pesticides frequently for managing the pest population (Blossom Midge) which causes infestation and reduced the yield of the crop.

#### 5. Problem definition / description:

Jasmine is the major commercial flower crop and cultivated around 1000 ha in the district. Major problem faced by the jasmine growers are bud worm, blossom midge and red spider mite infestation. Out of which Blossom midge causes severe infestation around 80% which reduces the yield and income loss to the farmers. Since the farmers are advocating the insecticidal spray frequently which leads to resistance of pests to the chemicals and deteriorating the soil health. SAUs and institutes like TNAU and NBAIR comes with the suitable integrated pest management package to address this problem and KVK conducted this trial to know the suitable management practices of this pests.

#### 6. Technology Assessed:

| <b>Farmer Practice</b>     | : | Spraying of insecticide   |
|----------------------------|---|---|
| <b>Technology Option-1</b> | : | Spray with EPF Fungus Metarhizium anisopliae / Beauveria bassiana   |
|                            |   | (NBAIR formulation) @ 5 g/lit. of water three times along with six  |
|                            |   | release of Trichogramma chilonis @ 1,00,000/ha and Chrysoperla      |
|                            |   | zastrowi sillemi @ 4 – 5 grubs per plant @ 7 days interval from bud |
|                            |   | initiation stage  |
| <b>Technology Option-2</b> | : | Installation of light traps 1/acre, Spray neem seed kernel          |
|                            |   | extract 5 %, Spray of Beauveria bassiana 2 g/lit.                   |

#### 7. Critical inputs given:

| Sl. | Critical inputs        | Quantity      | Value (Rs) | The farmers supported with   |  |  |
|-----|------------------------|---------------|------------|------------------------------|--|--|
| No  |                        | (Numbers)     |            | Neem seed, Light trap,       |  |  |
| 1   | Neem Seed              | 25 Kgs        | 8,000.00   | Beauvaria bassiana and       |  |  |
| 2   | Light trap             | 1 Nos. / acre | 6,000.00   | Metarhizium ansiopliae worth |  |  |
| 3   | Beauvaria bassiana     | 15 Kgs        | 4,000.00   | of Rs. 22,000.00             |  |  |
| 4   | Metarhizium ansiopliae | 15Kgs         | 4,000.00   |                              |  |  |

# 8. Results: Table: Performance of the technology

| Technology Option   | No.of<br>trials | Yield<br>q/ ha | Net Returns<br>(Rs. /ha) | B:C ratio | Pests<br>Infestation<br>Percentage |
|---|-----------------|----------------|--------------------------|-----------|------------------------------------|
| <b>Farmers Practice:</b> Spraying of insecticide  |                 | 74.57          | 1,36,992.00              | 2.41      | 17.38                              |
| <b>Technology 1:</b> Spray with EPF<br>Fungus <i>Metarhizium anisopliae /</i><br><i>Beauveria bassiana</i> (NBAIR<br>formulation) @ 5 g per lit. of water<br>three times along with six release of<br><i>Trichogramma chilonis</i> @<br>1,00,000/ha and <i>Chrysoperla zastrowi</i><br><i>sillemi</i> @ 4 – 5 grubs per plant @ 7<br>days interval from bud initiation<br>stage | 5               | 94.32          | 1,57,819.00              | 2.59      | 7.53                               |
| <b>Technology 2:</b> Installation of light<br>traps 1/acre, Spray neem seed kernel<br>extract 5 %, Spray of <i>Beauveria</i><br><i>bassiana</i> 2 g/litre   |                 | 91.78          | 1,53,348.00              | 2.56      | 7.97                               |

#### **Description of the results:**

The results revealed that the spraying of EPF Fungus *Metarhizium anisopliae / Beauveria bassiana* along with the release of parasitoids recorded an yield of 94.32 q/ha with the pests infestation percentage of 7.53; where as in neem seed kernel extract treated plot the observed yield was 91.78 q/ha with the pests infestation percentage of 7.97. In farmers practices the yield observed was 74.57 with the pest infestation percentage of 17.38 respectively. The result indicated by combining all the integrated pests management practices it would manage the pest.

## 9. Feedback of the farmers involved:

Based on the result farmers felt that this integrated pest management modules helps in reducing the pest infestation by adopting spraying of EPF fungus along with the installation of light trap which manages the pest incidence. Further farmers also felt that we will adopt this technology and share them to other fellow farmers in that region.

#### 10. Feed back to the scientist who developed the technology:

Based on the result it was understand that by combining all the integrated pest management practices and ecofriendly approaches could manage the Blossom Midge pest infestation in Jasmine crop. Further it requires to create awareness and training programme to educate the extension functionaries and jasmine farmers, regarding the management of the pest through the State Department of Horticulture and extension programmes in KVK for the wider adoption of the management techniques.

#### OFT:9

| 1. Thematic area       | : | Millet enterprise  |
|------------------------|---|--|
| 2. Title               | : | Assess the performance of herbals in millets cookies preparation |
| 3. Scientists involved | : | SMS (Home science)   |

#### 4. Details of farming situation:

The trial entrepreneurs selected from Kallipatti and Karatadipalayam villages of T.N.Palayam and Gobi block of Erode District. Millet enterprise is gaining momentum now-a-days and KVK is providing technical and linkage support for entrepreneurs to establish the units. Millet is being cultivated in hill regions of Erode district.

#### 5. Problem definition / description:

KVK trained entrepreneurs in millets are producing millet biscuit and marketing through, AESC and FPOs. They are lacking in knowledge about herbals inclusion in millet cookies preparation to enhance the immune boosting level of consumers. They approached KVK to provide technology about herbals usage in millet cookies preparation and hence KVK has taken trial on assessment of Herbals in Millet cookies preparation.

#### 6. Technology Assessed:

| Farmer practice<br>Technology Option 1 | : | Herbal cookies without herbal usage<br>5 gm dry powder of Thulsai, Karapooravalli, Chekrumanis and ginger |
|--|---|---|
|  |   | with 1 kg flour mix   |
| Technology option 2                    | : | 5 ml lemon juice with 5 gm moringa leaf powder for I Kg millet flour                                      |

#### 7. Critical inputs given:

Five entrepreneurs selected for the trial in two locations and supported with herbals, jaggery powder, Millets and lemon with worth of Rs. 2000/- each and total cost of the trial was Rs.10,000/-

#### 8. Results:

#### Table: Performance of the technology

| Technology Option           | No. of Yield trials (q/ha) |   | Net<br>1s<br>(Rs./KG) | B:C  | Data on Other performance<br>indicators* |  |
|-----------------------------|----------------------------|---|-----------------------|------|--|--|
| Farmers Practice (No herbs) |                            | - | 75                    | 1.52 | Consumer Preference:6.8                  |  |
| Technology 1(Herbal Mix)    | 5                          | - | 230                   | 2.21 | Consumer Preference- 8.4                 |  |
| Technology 2(Moringa leaf)  |                            | - | 170                   | 1.92 | Consumer Preference:7.9                  |  |

#### 9. Feedback of the farmers involved:

The entrepreneurs expressed that the herbal cookies prepared with more herbals are tastier than single herbal like moringa powder. They also expressed that, KVK can support for marketing the herbal cookies in canteens of Schools and colleges

#### 10. Feed back to the scientist who developed the technology:

The consumer preference is more in TO-1 with combination of herbals. Awareness about herbal cookies can be up scaled through extension system to include in school canteens and ICDS with the support of District administration

#### **OFT-10**

| 1. Thematic area       | : | Mushroom enterprise                       |
|------------------------|---|---|
| 2. Title               | : | Assessment on new oyster mushroom variety |
| 3. Scientists involved | : | SMS (Home science)                        |

#### 4. Details of farming situation:

Five trial farmers selected from Bangalapudhur, and kavindhapadi villages of T.N.Palayam and Gobi of Erode District. Mushroom is one of the allied enterprises of Farm based activities and more consumers are willing to eat mushroom as one of their daily vegetable due to its higher nutritive value.

#### 5. Problem definition:

Farmers are cultivating PFL variety and CO2 variety and they expect new variety with short duration; hence KVK has taken On Farm Trial on Assessment on new oyster mushroom verities with TNAU and IIHR source to benefit the mushroom grower to sustain the enterprises with new varieties.

#### 6. Technology Assessed:

| Farmer practice     | : | PFL       |
|---------------------|---|-----------|
| Technology Option 1 | : | ARKA OM-1 |
| Technology Option 2 | : | CO2       |

#### 7. Critical inputs given:

The trial entrepreneurs selected for the trial in two locations and supported with 20 pockets each of CO2 and ARKA OM-1 variety bed spawn with worth of Rs. 2500/- each trial and total cost of Rs.12500.

#### 8. Results:

#### Table : Performance of the technology

| Technology Option       | No. of<br>trials | Yield<br>(/kgbed) | Net Returns<br>(Rs./batch/250<br>beds) | B:C  | Data on Other<br>performance<br>indicators |
|-------------------------|------------------|-------------------|--|------|--|
| Farmers Practice-(PFL)  |                  | 1.0               | 15650                                  | 1.78 | Consumer                                   |
|                         |                  |                   |  |      | Preference: 7.1                            |
| Technology 1 (ARKA OM-1 | 5                | 1.2               | 27720                                  | 2.44 | Consumer                                   |
|                         | 5                |                   |  |      | Preference: 8.1                            |
| Technology 2) (CO2)     |                  | 1.1               | 20980                                  | 2.08 | Consumer                                   |
|                         |                  |                   |  |      | Preference: 7.6                            |

#### 9. Feedback of the farmers involved:

The entrepreneurs participated in the trial expressed that the APK-1 variety of pink oyster mushroom gives high returns for its short duration of 30 days cycle as compared with other two varieties of 60 days crop cycle. The entrepreneur can get Rs.27720/- per batch with 250 beds and for 5 batches Rs.138600/- per year as profit.

#### 10. Feed back to the scientist who developed the technology:

Framers expressed that the continuous supply of ARKA OM-1 variety could be ensured by research station and spawn cultivation training could be arranged for mushroom entrepreneurs.

# **4.3 Frontline Demonstrations in Detail**

| S.<br>No | Crop /<br>Enterprise | Thematic<br>Area | Technology<br>demonstrated                | Feedback sent to<br>research system                                      | Details of popularization                          | Horizontal spread of<br>technology |                   |                  |  |
|----------|----------------------|------------------|---|--|--|------------------------------------|-------------------|------------------|--|
|          | •                    |                  | as follow up<br>from OFT                  |  | methods<br>suggested to<br>the Extension<br>system | No. of<br>villages                 | No. of<br>farmers | Area<br>in<br>ha |  |
| 1        | Finger<br>millet     | ICM              | Short duration<br>variety ML365<br>& Co15 | Submitted and KVK<br>initiated seed<br>production with<br>department     | Demonstration<br>and mini kit<br>programme         | 16                                 | 2025              | 1825             |  |
| 2        | Black<br>gram        | ICM              | Variety along<br>with IPNM<br>practices   | Submitted for<br>ensuring the<br>availability of quality<br>seeds        | Method<br>demonstration                            | 20                                 | 300               | 510              |  |
| 3        | Green<br>gram        | ICM              | Short duration<br>variety CO-8            | Submitted and<br>initiated seed<br>production with<br>farmers group      | Method<br>demonstration                            | 12                                 | 260               | 125              |  |
| 4        | Cassava              | ICM              | Yethapur-1                                | Planting material<br>produced with the<br>support of extension<br>system | Demonstration                                      | 2                                  | 5                 | 2                |  |
| 5        | French<br>beans      | ICM              | Arka Arjun                                | Seed material<br>produced with the<br>support of extension<br>system     | Demonstration                                      | 2                                  | 5                 | 2                |  |

# a. Follow-up of FLDs implemented during previous years

#### b. Details of FLDs implemented during the reporting period

| Sl.   | Crop          | Thematic area  | Technology Demonstrated   | Season | Farming   | Source   | No. of    | No. of | No. of  | Area (ha) |        | Justification for |
|-------|---------------|----------------|---------------------------|--------|-----------|----------|-----------|--------|---------|-----------|--------|-------------------|
| No.   |               |                |                           | and    | situation | of funds | locations | demo   | SC/ST   | Proposed  | Actual | shortfall if any  |
| - D 1 |               |                |                           | year   |           |          |           |        | farmers |           |        |                   |
| Pulse | S             | Г              |                           |        |           |          |           | _      |         |           |        |                   |
| 1     | Blackgram     | INM            | INM Blackgram (VBN8)      | Rabi   | Rainfed   | ICAR     | 1         | 5      | -       | 2         | 2      | -                 |
| Com   | mercial Crops | 5              |                           | r      |           |          |           |        |         |           |        |                   |
| 2     | Cotton        | ICM            | Intercropping with pulses | Kharif | Irrigated | ICAR     | 1         | 4      | -       | 1.6       | 1.6    | -                 |
| 3     | Sugarcane     | INM            | TNAU Sugarcane Booster    | Kharif | Irrigated | ICAR     | 1         | 5      | -       | 2         | 2      | -                 |
| Tube  | r crop        |                |                           |        |           |          |           |        |         |           |        |                   |
| 4     | Tapioca       | Varietal demo  | TNAU YTP-2                | Kharif | Irrigated | ICAR     | 2         | 5      | -       | 2         | 2      | -                 |
| Veget | table crop    | •              | ·                         | •      |           |          |           |        |         |           | •      |                   |
| 5     | French        | Varietal demo  | IIHR Arka Arjun           | Kharif | Rainfed   | ICAR     | 2         | 2      | -       | 2         | 2      | -                 |
|       | Bean          |                | 5                         |        |           |          |           |        |         |           |        |                   |
| Lives | tock Product  | ion Management |                           |        |           |          |           |        |         |           |        |                   |
| -     | -             | -              | -                         | -      | -         | -        | -         | -      | -       | -         | -      | -                 |
| Farm  | Mechanizati   | on             |                           |        |           |          |           |        |         |           |        |                   |
| 6     | Cultivable    | Farm           | Stone Remover             | Kharif | Irrigated | ICAR     | 2         | 4      | -       | 1         | 1      | -                 |
|       | Land          | Machinery      |                           |        |           |          |           |        |         |           |        |                   |
| 7     | Banana        | Farm           | Inter cultivator cum      | Kharif | Irrigated | ICAR     | 2         | 4      | -       | 1         | 1      | -                 |
|       |               | Machinery      | Ridger                    |        | _         |          |           |        |         |           |        |                   |
| Wom   | en and Child  | ren            |                           |        |           |          |           |        |         |           |        |                   |
| 8     | Vegetable     | Health &       | Demonstration on vertical | -      | Irrigated | ICAR     | 2         | 10     | -       | 1 cent    | 1 cent | -                 |
|       |               | Nutrition      | garden in households      |        |           |          |           |        |         |           |        |                   |
| 9     | Herbal        | Health &       | Demonstration on          | -      | Irrigated | ICAR     | 2         | 10     | -       | 1 cent    | 1 cent | -                 |
|       |               | Nutrition      | immune boosting herbal    |        | _         |          |           |        |         |           |        |                   |
|       |               |                | garden                    |        |           |          |           |        |         |           |        |                   |
| 10    | Greens        | Health &       | Demonstration on          | -      | Irrigated | ICAR     | 5         | 10     | -       | 1 cent    | 1 cent | -                 |
| -     |               | Nutrition      | cultivation on Micro      |        | 0         | _        | -         | -      |         |           |        |                   |
|       |               |                | greens                    |        |           |          |           |        |         |           |        |                   |

# **5. Training Programmes**

# 5.1 Technical Feedback on the demonstrated technologies

| S. | Feed Back   |
|----|---|
| No |   |
| 1  | <b>Cotton:</b> Inter cropping systems are dynamic interactive practices aimed at better use of the production |
|    | components like soil, water and nutrients. The noncompetitive crops like black grain and radish in the        |
|    | conton much cropping system were advantageous in terms of weed smothering efficiency and net                  |
| 2  | Concerne for the faithing community   |
| 2  | variety of Mulluvadi, KVK planned an area expansion of Technology in other parts of the district              |
| 3  | <b>French Beans:</b> Arka Ariun variety performed well in Bargur hills compare to ruling variety              |
| 5  | Arka komal. For wider adoption, KVK plan to scaling up the technology in other parts of the                   |
|    | Arka Komai, For while adoption, KVK plan to scaning up the technology in other parts of the                   |
| 4  | Inny regions  |
| 4  | <b>Sugarcane:</b> Fonar application of Sugarcane booster @ 45, 60 and 75 days after planting rectify the      |
|    | micro nutrient deficiency in sugarcane. 22 % yield increase was noticed as compared to farmers                |
| 5  | <b>Plack grom:</b> Demonstration on NIM practices in block grom increases the yield up to 17 percent          |
| 5  | black grain. Demonstration on invit practices in black grain increases the yield upto 17 percent              |
| 6  | Vertical farming: From DEL villages, the technology has been adopted at schools and household level           |
| 0  | 2 technocrats developed for field level implementation of the technology. One demo model unit has             |
|    | been established at KVK instruction farm. In rack model hanging system also developed at KVK demo             |
|    | unit. Leaflets published for awareness creation. Apart from Erode The technology spreaded over                |
|    | Krishnagiri and other parts of the Tamilnadu, KVK established models in Schools, DFI villages and             |
|    | CMRCs   |
| 7  | Immune Boosting Herbal Garden: The immune boosting herbal garden made easy to women to                        |
|    | treat the common ailments for the family members at the doorsteps. Awareness created to the farming           |
|    | community to establish herbal nursery plants in the future to sustain the garden.                             |
| 8  | Micro green cultivation: F  |
|    |   |
| 9  | <b>Stone Remover:</b> It makes the land suitable for cultivation; Helps in yield improvement; Helps           |
|    | in moisture conversation of the land; It is economically useful with the respect of cost                      |
|    | reduction and time saving; Easy implementation of machines to remove stones and pebbles                       |
| 10 | Inter cultivator cum Ridger: This machinery helps in lodging and weeding with bunding                         |
|    | formation; Yield is high, Reduction in labour cost  |
## 6. Farmers' reactions on specific technologies

| S.<br>No | Feed Back  |
|----------|--|
| 1        | <b>Cotton:</b> The farmers felt that, inter cropping system in cotton reduces the weed growth and provided |
|          | the additional income. Reduces the labour dependency for weeding operations                                |
| 2        | Cassava : Farmers expressed that YTP-2 variety, which is giving better yield, high starch content          |
|          | and resistant CMD and produced 658Q/hac  |
| 3        | French Beans: Farmers felt that Arka Arjun variety performed well and produced 122 q/ ha.                  |
|          | and fetch good market price  |
| 4        | Sugarcane: Farmers expressed that, foliar spraying of sugarcane booster reduces the nutrient               |
|          | deficiency and improves the cane yield   |
| 5        | Blackgram: Farmer expressed that, demonstration brought awareness on INM practices in                      |
|          | blackgram cultivation. The integrated approach enable to get better yield and income                       |
| 6        | Vertical farming: The family members can access for fresh organic vegetables at doorsteps.                 |
|          | By adopting this technology, increased consumption of the vegetables and greens by women                   |
|          | and children throughout the year & the structure is easy to maintain                                       |
|          |  |
| 7        | Immune Boosting Herbal Garden: The family members harvested herbs from twenty                              |
|          | herbal plants to cure common ailments like fever, cold, indigestion problem and they                       |
|          | reduces the medical expenses from Rs.1500 to 2000 /- per year. Some plants helps to                        |
|          | increase the immunity power like checkruminias, Moringa, curryleaf etc,.                                   |
|          |  |
| 8        | Micro green cultivation: The microgreen demonstration helped the Anganwadi workers to                      |
|          | cook nutritious food for the vulnerable children. The taste of greens is more when compared                |
|          | to matured greens. The workers were created awareness on importance of microgreen at                       |
|          | Anganwadi centre to improve the nutritional status of the children.  |
| 9        | Stone Remover : Labour reduction in removing the stones and pebbles; Helps to overcome                     |
|          | the yield loss because of stones; Helps in irrigation difficulty   |
| 10       | Inter cultivator cum Ridger: Helps in labour scarcity in bunding formation; Reduction in                   |
|          | cost; Helps to overcome the yield loss; Implements is useful for time of operation                         |

## 7. Extension and Training activities under FLD

| Sl.No. | Activity                             | No. of activities<br>organized | Number of participants |
|--------|--------------------------------------|--------------------------------|------------------------|
| 1      | Field days                           | 10                             | 178                    |
| 2      | Farmers Training                     | 21                             | 874                    |
| 3      | Media coverage                       | 6                              | -                      |
| 4      | Training for extension functionaries | 3                              | 189                    |

### 8. Performance of Frontline demonstrations

#### 8.1 Frontline demonstrations on crops

|                      | Thomatia                | Technology  | Nam<br>Variety | e of the<br>y/ Hybrid | No. of                          | Area        |       | Yiel  | d (q/ha) |        | %        | Economi | cs of demon | stration (R | s./ha)                  |        | Economics<br>(Rs./ | of check<br>ha) |                         |
|----------------------|-------------------------|---|----------------|-----------------------|---------------------------------|-------------|-------|-------|----------|--------|----------|---------|-------------|-------------|-------------------------|--------|--------------------|-----------------|-------------------------|
| Crop                 | Area                    | demonstrated  | Domo           | Check                 | Farmers                         | (ha)        | -     | Demo  |          |        | Increase | Gross   | Gross       | Net         | BCR                     | Gross  | Gross              | Net             | BCR                     |
|                      |                         |   |                |                       |                                 | , í         | High  | Low   | Average  | Check  | in yield | Cost    | Return      | Return      | ( <b>R</b> / <b>C</b> ) | Cost   | Return             | Return          | ( <b>R</b> / <b>C</b> ) |
| Cotton               | ICM                     | Promotion of pulses<br>cultivation as an<br>intercrop in cotton<br>cultivation for<br>enhancing yield and<br>controlling the<br>weeds | VBN 8          |                       | 4                               | 1.6         | 21.56 | 20.84 | 20.92    | 18.09  | 16       | 86825   | 176781.25   | 89956.25    | 2.04                    | 87375  | 142967.5           | 55592.5         | 1.64                    |
| Blackgram            | INM                     | Demonstration of<br>Integrated Nutrient<br>Management in<br>Blackgram   | VBN 8          |                       | 5                               | 2           | 8.78  | 8.35  | 8.73     | 7.48   | 17       | 24950   | 54800       | 29850       | 2.20                    | 23800  | 44200              | 20400           | 1.86                    |
| Sugarcane            | INM                     | Demonstration of<br>micronutrient<br>management in<br>Sugarcane   | CO<br>0212     |                       | 5                               | 2           | 1335  | 1259  | 1297.3   | 1065.4 | 22       | 146650  | 346379      | 199729      | 2.36                    | 144235 | 284461             | 140226          | 1.97                    |
| Tapioca<br>(Cassava) | Variety                 | YTP-2 released in 2020, 46.20 t/ha  | YTP            |                       | 5                               | 2           | 678   | 639   | 658      | 380    | 73       | 109999  | 307500      | 197501      | 2.80                    | 102247 | 241932             | 139685          | 2.37                    |
| French<br>Bean       | Variety                 | Arka Arjun, Plants<br>are bushy, Vigorous   | ArkaAa<br>rjun |                       | 2                               | 2           | 132   | 112   | 122      | 99     | 23       | 104992  | 271590      | 166598      | 2.59                    | 99598  | 212477             | 112879          | 2.13                    |
| Kitchen<br>Garden    | Kitchen<br>Garden       | Demonstration on<br>vertical garden in<br>households  |                |                       | 10                              | 2 units     | 3.40  | 3.12  | 3.24     | -      | -        | 3695    | 9393        | 5698        | 2.54                    | -      | -                  | -               | -                       |
| Health and nutrition | Health and<br>nutrition | Demonstration on<br>Immune boosting<br>herbal garden in<br>Rooftop models/<br>Backyard  | -              | -                     | 10                              | 10<br>units | 42.50 | 40.50 | 42       | -      | -        | 3500    | 8700        | 5200        | 2.49                    | -      | -                  | -               | -                       |
| Nutri<br>garden      | Nutri garden            | Demonstration on<br>cultivation on Micro<br>greens  | -              | -                     | 238<br>(Children<br>&<br>Women) | 10<br>units | 17.0  | 15.60 | 16       | -      | -        | 2360    | 5150        | 2790        | 2.18                    | -      | -                  | -               | -                       |

8.2 Frontline demonstrations on Livestock : Nil

## **8.3** Frontline demonstrations on Farm Implements and Machinery

| Name of the implement          | Сгор   | Technology<br>demonstrated                  | No. of<br>Farmer | Area<br>(ha) | Major<br>parameters    | Filed observation<br>(output/man hour)% change<br>in major |       | Labor reduction (man days) |                     |        |         | Cost reduction<br>(Rs./ha or Rs./Unit etc.) |                         |        |                |       |
|--------------------------------|--------|---|------------------|--------------|------------------------|--|-------|----------------------------|---------------------|--------|---------|---|-------------------------|--------|----------------|-------|
|                                |        |   |                  |              |                        | Demo   | Check | parameter                  | Land<br>preparation | Sowing | Weeding | Total                                       | Land<br>preparatio<br>n | Labour | Irrigatio<br>n | Total |
| Stone remover                  | -      | Stone remover<br>in cultivable<br>land      | 4                | 1            | Coverage ha/<br>labour | 0.024  | 0.008 | 200                        | 83                  | -      | -       | 83  | 41500                   | 83     | -              | 41500 |
| Inter cultivator cum<br>Ridger | Banana | Inter cultivator<br>cum Ridger in<br>Banana | 4                | 1            | Coverage ha/<br>labour | 0.072  | 0.028 | 157                        | 12                  | -      | 10      | 22  | 11000                   | 22     |                | 11000 |

### <u>1. Productivity Enhancement in Blackgram (Vigna mungo L.) through Improved Crop</u> <u>Management Practices on Farmers' Field</u>

S. Saravanakumar, P. Alagesan, A. Premalatha, R. D. Srinivasan and M. Thirumoorthi

#### Abstract:

Urd bean (*Vigna mungo* L.) or black gram is one of the important pulse crop cultivatedover 1000 ha area in Erode district of Tamil Nadu. Attempts were made to reduce the yield gap of black gram by adopting integrated crop management practices through cluster frontline demonstrations during 2016-2020 in 250 farmers' field. The integrated crop management practices comprised of high yielding black gram variety, seed treatment with rhizobium, foliar application of micronutrients, integrated plant protection measures were demonstrated. The results showed that number of pods and seeds per plant were increased by 7.66 and 10.54 per cent respectively over farmers practice. Similarly the average higher grain yield of 7.68 quintal/ha recorded in demonstration plots compared to 6.51 quintal/ha in farmers practice with a yield advantage of 17.99 per cent over the farmer practices. The average extension gap, technology gap and technology index were 1.17 quintal/ha, 0.83 quintal/ha, and 9.75 per cent respectively. About 71.6 per cent farmers were satisfied with the improved crop production technologies. Considering the above facts, Frontline demonstrations were carried out in a systematic and scientific manner on farmer's field to show the worth of improved production management technologies in black gram for further adoption.

#### Introduction

Ensuring nutritional security to an ever growing population and sustainable crop production are the priorities of the scientistand extension workers in India. Black gram (*Vigna mungo* L.)popularly known as *Urd* cultivated in most part of the India throughout the year especially the marginal lands and dry tracts. The crop is originated in India and cultivated from the ancient time. Indians consume around 30 per cent of the world's pulses, but domestic production of pulses which became stagnated in recent two decade and has not kept pace with population growth. The net availability of pulses has come down from 60.70 g per day per person in 1951 to 31.6 g per day per person in 2010 but as per recommendation of Indian Council of Medical Research, 65 g pulses are required per day per person.

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Black gram is one of the important pulse crops of India. It plays a vital role in soil fertility enhancement through atmospheric nitrogen fixation, root nodulation as well as nutritional security for human beings especially for protein supplement. Black gram is cultivated as pure crop, inter crop and rice fallow in most of the region based on the climatic conditions. It is cultivated mostly on the marginal lands, under rain fed situations. One of the important reason for low productivity is poor fertility levels of the soil. The problem is compounded by the fact

that the majority of the farmers in the rain fed regions are lack of awareness on new and high yielding varieties, resource poor with low risk bearing capacity and they generally do not apply recommended practices. Many times pulses are cultivated as a mixed / intercrops and the productivity of black gram is very low in Erode district (731 kg/ha) of Tamil Nadu when compared to the yield potential of the crop. This indicates that there is a wide scope for increasing the productivity of black gram by proper management practice.

The productivity of black gram per unit area could be increased by adopting improved practices in a systematic manner along with high yielding varieties (Rai et al., 2015). Frontline demonstration is the new concept of field demonstration evolved by Indian council of Agricultural Research, New Delhi with the main objectives of demonstrating new varieties or technologies and its management practices in the farmers' field. The newly and innovative technology having higher production potential under the specific cropping system can be popularized through FLD programme. The frontline demonstrations were carried out in a scientific way in order to show the worth of the new variety and improved practices for enhancing the black gram productivity.

#### Methodology

The study was carried out in Erode District of Tamil Nadu during 2016-17 to 2019–2020 in 6 clusters in 3 blocks of Erode district by covering 100 hectares in 250 farmers' field. The frontline demonstrations were laid out in 75 farmer's field covering 30 ha in both 2016-17 and 2017–18 similarly 50 demonstrations laid out in both 2018-19 and 2019-2020. Each demonstration was conducted in an area of 0.4 ha and adjacent to the farmers' fields in which the crop was cultivated with farmers practice/variety taken as control or check plot. The soil of the demonstration plots are red sandy in nature with the pH range of 6.0-8.2.

The selected progressive farmers were trained on all scientific black gram cultivation aspects like selection of varieties, seed treatment, sowing, integrated nutrient and pest management, harvesting and post-harvest management before starting of frontline demonstrations. The improved variety of black gram (VBN 6) was selected for demonstration. The variety VBN 6 released from Tamil Nadu Agricultural University, Coimbatore during the year 2011. The special features of the selected variety are resistant to yellow mosaic virus diseases, synchronized maturity and duration of 65-70 days with the production potential of 850 kg/ha. The seeds were treated with bio-fertilizers and then taken for sowing. Optimum plant populations were maintained in the demonstrations. The demonstrated fields were regularly monitored and periodically observed by the scientists of KVK.

The yield gap analysis is a potent research technique that has been introduced in the 1970s. Developed by the International Rice Research Institute (IRRI), it is extensively used to measure and analyze determinants of the yield gaps. It is also observed that, even though the production level has increased to a great extent in the recent past; still there exists a wide gap between the actual yield obtained by the growers and the production level actually possible with the existing modern technology. To study the impact of frontline demonstrations, data from FLD and farmers practices were analyzed. Other parameters like increasing in yield (%), technology gap (%), extension gap (%) and technology index were worked out as suggested by Kadian et al., (1997). Yield gap refers to the difference between the potential yield and actual farm yield. Potential yield refers to that which is obtained in the experiment station. At the time of harvest yield data were collected from both the demonstrations and farmers practice. Cost of cultivation, net income and benefit cost ratio were worked out. The yield is considered to be the absolute maximum production of the crop possible in the given environment, which is attained by the best available methods and with the maximum inputs in trials on the experiment station in a given season. Demonstration yield is the yield obtained on the demonstration plots on the cultivators' fields with respect to infrastructural facilities and environmental conditions. Actual yield refers to the yield realized by the farmers on

their farms under their management practices. The extension gap, technology gap and technology index were calculated using the formula as suggested by Samui et al., (2000).

Extension gap (qtl / ha) = DY (qtl /ha)–LY (qtl/ha) Technology gap (qtl / ha) = PY (qtl /ha)–DY (qtl/ha)

Technology Index (%) =  $\frac{PY (qtl /ha) - DY (qtl / ha)}{PY(qtl /ha)} \times 100$ 

Where, DY = Demonstration Yield, LY = local Check Yield, PY = Potential Yield of variety,

The farmers were personally interviewed with well structured interview schedule. Client satisfaction index was calculated as developed by Kumaran and Vijayaragavan (2005). The individual obtained scores were calculated by the formula as:

The individual obtained score

Client Satisfaction Index (%) =

Maximum score possible

#### **Results and Discussion**

The result indicates that the frontline demonstration has given a good impact over the farming community as they were motivated for adoption of new agricultural technology applied in the FLD plots. The yield attributing factors like number of pods per plant and number of seeds per pod was recorded and the observations were presented in Table 1. It indicates that the maximum of number 28.2 pods plant was recorded in 2018-19 and 26.8 pods recorded in 2017-18 with the average of 27.5 pods were produced in the demonstrated plot which was superior to the local practices (25.6 pods / plant). This indicated that 7.66 percent more pods produced in the improved crop management practices adopted field. Similarly on an average 5.75 seeds produced the demonstrated plot compared to local practices which recorded 4.93 seeds per pod. Though the production of a number of pods/plant may be a genetic character, environmental conditions such as soil, climatic condition, etc. also decides the pod's number. Bhowaland and Bhowmik (2014) reported a variation of the number of pods earlier.

New variety with improved crop management practices registered significantly higher yield than the local practices. The yield of demonstrations and local practices were presented in Table 2. The farmers harvested an average bean yield of 7.68 q ha-1 with the highest bean yield of 8.22 q ha-1 and the lowest grain yield of 6.93 q ha-1 with a yield advantage of 17.99 per cent over the existing farmer practices. An average additional yield of 1.17 q ha-1 was harvested in the demonstrated plot over the farmers practice. This could be achieved due to the adoption of improved production technologies along with new variety of black gram. These results indicated that the frontline demonstrations gave good impact on farming community in Erode district as they were motivated by the improved production technologies applied in the demonstration plots. The findings of the present study are in line with Singh et al., (2018); Jyothiswaroopa et al., (2016) and Rai et al., (2015).

| Year      | Number of demonstrations | Number of pods/ plant |             |          | Number of seeds / pod |       |          |  |
|-----------|--------------------------|-----------------------|-------------|----------|-----------------------|-------|----------|--|
|           |                          | Improved              | Local check | Percent  | Improved              | Local | Percent  |  |
|           |                          | practices             |             | mereaseu | practices             | CHECK | mcreased |  |
| 2016-17   | 75                       | 27.4                  | 25.8        | 6.20     | 5.9                   | 4.9   | 20.41    |  |
| 2017-18   | 75                       | 26.8                  | 25.4        | 5.51     | 5.6                   | 4.6   | 21.74    |  |
| 2018 -19  | 50                       | 28.2                  | 26.2        | 7.63     | 5.5                   | 5.0   | 10.00    |  |
| 2019-2020 | 50                       | 27.6                  | 24.8        | 11.29    | 6.0                   | 5.2   | 15.38    |  |
| Total     | 250                      | 110                   | 102.2       | 30.63    | 23                    | 19.7  | 42.15    |  |
| Average   | 50                       | 27.5                  | 25.6        | 7.66     | 5.75                  | 4.93  | 10.54    |  |

#### Table 1. Yield attributing characters of black gram under demonstration

Table 2. Grain yield of black gram as influenced by improved and local practices

| Year      |         | Green Yi     | eld (qtl/ha) |           | Additional     | Percentage yield |  |  |
|-----------|---------|--------------|--------------|-----------|----------------|------------------|--|--|
|           | Imp     | roved practi | ces          | Local     | Yield (qtl/ha) | increase over    |  |  |
|           |         |              |              | practices | over local     | local practices  |  |  |
|           | Maximum | Minimum      | Average      | Average   | check          |                  |  |  |
| 2016-17   | 8.56    | 7.38         | 8.08         | 6.82      | 1.26           | 18.48            |  |  |
| 2017-18   | 7.12    | 6.28         | 6.84         | 5.80      | 1.04           | 17.93            |  |  |
| 2018 -19  | 8.50    | 7.42         | 7.99         | 6.90      | 1.09           | 15.80            |  |  |
| 2019-2020 | 8.70    | 6.65         | 7.79         | 6.50      | 1.29           | 19.85            |  |  |
| Average   | 8.22    | 6.93         | 7.68         | 6.51      | 1.17           | 17.99            |  |  |

The economic feasibility of the scientific adoption of technologies over farmers practice was calculated depending on the prevailing prices of inputs and output costs (Table 3). The average highest of cultivation was recorded during 2016-17 as Rs. 22,750.00 and the lower of Rs. 20158.00 during 2018–19. It was found that the average cost of cultivation of black gram under improved crop production technology was recorded with an average of Rs. 21767.80 over the farmers practice and it was recorded as Rs. 22,557.50 / ha. Frontline demonstrated fields recorded the higher mean gross return of Rs. 45547.50/ ha and net return Rs. 23134.50/ha with high benefit cost ratio of 2.03. These results are in line with the findings of Sreelakshmi et al., (2012) and Hiremath and Nagaraju (2009). These results are clearly indicated that the adoption of scientific technologies was enhancing the black gram production and economic returns from the demonstrated regions.

The technology gap shows the gap between the potential yields of the crop over demonstrated yield. The technology gap was recorded as 0.83 qtl / ha (Table 5). The extension gap shows the gap between the demonstration yield and local yield and it was 1.17 qtl/ha. The observed extension gap and technology gap may be attributed due to dissimilarities in soil fertility levels, pest and disease incidence, improper usage of manures and fertilizers in this region (Mukherjee, 2003). More and more use of latest production technologies will subsequently change this alarming trend. The new technologies will eventually lead to discontinue the old technologies and to adoption of new technologies by the farmers. Technology index shows the feasibility of the technologies at the farmers' field. The lower the value of the technology index more is the feasibility. Table 4 revealed that the technology index value was 9.75 per cent.

| Year      | Cost of   | Cost of cultivation |           | oss Return | Net       | Return  | BCR       |       |  |
|-----------|-----------|---------------------|-----------|------------|-----------|---------|-----------|-------|--|
|           | Improved  | Improved Local      |           | Local      | Improved  | Local   | Improved  | Local |  |
|           | practices | check               | practices | check      | practices | check   | practices | check |  |
| 2016-17   | 22750     | 23500               | 50904     | 42966      | 28154     | 19466   | 2.24      | 1.83  |  |
| 2017-18   | 21750     | 22100               | 38304     | 32480      | 16554     | 10380   | 1.76      | 1.47  |  |
| 2018 -19  | 20158     | 21156               | 41862     | 36168      | 21704     | 15012   | 2.08      | 1.71  |  |
| 2019-2020 | 22413     | 23474               | 45547.5   | 38620.1    | 23134.5   | 15146.1 | 2.03      | 1.65  |  |
| Total     | 87071     | 90230               | 176618    | 150234     | 89546.5   | 60004.1 | 8.11      | 6.65  |  |
| Average   | 21767.8   | 22557.5             | 44154.4   | 37558.5    | 22386.6   | 15001   | 2.03      | 1.66  |  |

Table 3. Cost of cultivation, Gross return, Net return Benefit cost ratio as influenced by improved and local practices

Table 4. Yield, Extension gap, Technology gap and Technology index of the demonstration

| Variables          | Yield    | Extension gap | Technology gap | Technology Index |
|--------------------|----------|---------------|----------------|------------------|
|                    | (qtl/ha) | (qtl/ha)      | (qtl/ha)       | (%)              |
| Local check        | 6.51     | -             | -              | -                |
| Improved practices | 7.68     | 1.17          | 0.83           | 9.75             |

Table 5. Extent of farmer's satisfaction on extension services rendered during demonstrations

| Satisfaction level | Percentage |
|--------------------|------------|
| Low                | 9.6        |
| Medium             | 18.8       |
| High               | 71.6       |

The findings of the present study are in line with the findings of Rai et al., (2015) and Hiremath and Nagaraju (2009). The extent of satisfaction level of the respondent farmers over extension services and performance of demonstrated variety was measured by Client Satisfaction Index (CSI) and the results presented in Table 5. The data depicted in the table shows that the majority of the farmers expressed high (71.6%) to medium (18.8%) level of satisfaction for performance of technology and extension services whereas very few (9.6%) farmers expressed the lower level of satisfactions. The similar type of findings reported by Kumaran and Vijayaragavan (2005) on mustard and gram crops, Meena et al., (2014) on maize crops and Rai et al., (2015) on vegetable pigeon pea crops. This shows the relevance of frontline demonstrations.

#### Conclusion

Based on the findings, it is concluded that the scientific adoption of integrated crop management technologies along with new black gram variety VBN 6 performed superior than the existing farmers practice in all the demonstrations. Yield potential of the black gram variety is increased 17.99 per cent over farmers practice. It is also suggested that conducting large scale adoption demonstrations and ensuring the critical inputs in time for adoption of technologies play a critical role in enhancing black gram production. The findings also concluded that the adoption of integrated crop management practices along with new variety paved the way for improving the productivity of black gram per unit area.

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## **10. Technology Week Celebrations**

| Types of Activities         | No. of     | Number of    | Related crop/livestock technology                            |
|-----------------------------|------------|--------------|--|
| Casthias                    | Activities | Participants | Packer Mag Calabrations, Warren Dav                          |
| Gostnies                    | 4 INOS.    | 1525         | Forsing man the stand Forman Day,                            |
| To store a second second    | 12 N       | 1470         | Environment Day and Farmers Day                              |
| Lectures organised          | 13 Nos.    | 1472         | Paddy, Rosemary, Turmeric, Banana, Bhendi,                   |
|                             |            |              | Groundnut, Composting Techniques, wild boar                  |
|                             |            |              | whitefly Management Maiza Doultry Value                      |
|                             |            |              | addition in Millets and Daimy                                |
| Exhibition                  | 12 Noc     | 1270         | Soil and water concernation. Integrated forming              |
| Exhibition                  | 12 Nos.    | 1370         | Soli and water conservation, integrated farming              |
|                             |            |              | System, FAW management modules, Rugose                       |
|                             |            |              | Spiraling whitely Modules, value added                       |
| Film show                   | 2 Nor      | 1014         | Products – Honey, Milk & Millets                             |
| Film snow                   | 5 INOS.    | 1214         | Bee keeping and value addition in noney, IFS,                |
|                             |            |              | Desi bird farming, Nutrient Foods and Immune                 |
| Fair                        | 2 Nac      | 750          | Doosting Herbai Garden                                       |
| Fair                        | 5 INOS.    | 152          | Bargur cow and bullato milk, millets, tamarind               |
| Form Wight                  | 7 Nac      | 400          | and pulses, value addition and marketing                     |
| Farm Visit                  | / INOS.    | 409          | Integrated farming system, Soli and water                    |
|                             |            |              | toohniguos hy Drong Mathad EAW management                    |
|                             |            |              | and EVM conden   |
| Diagnostia Prestical        | 7 Noc      | 075          | Currentian wild been recallent by                            |
| Diagnostic Practical        | / INOS.    | 875          | Dropa tashnalagy, Soil sampling tashnigyag, Soil             |
|                             |            |              | Drone technology, Soll sampling techniques, Soll             |
|                             |            |              | detector honow extraction                                    |
| Distribution of Literature  | 6 Nos      | 1000         | Importance of Soil and water concernation Llage              |
| (No.)                       | o nos.     | 1000         | of high populate Honey Pag regring Importance                |
| (110.)                      |            |              | of Domocularity, Honey Bee rearing, Importance               |
|                             |            |              | production and Mineral mixture in dairy cow                  |
| Distribution of Soud (a)    | 1 5 Ot1    | 28           | Pagi Turmeria fodder groongrom groundnut                     |
| Distribution of Seed (q)    | 1.5 Qu.    | 38           | blackgram and vegetable seeds                                |
| Distribution of Planting    | 500 Nos    | 124          | Coconut seedlings Immune Boosting Herbal                     |
| materials (No.)             | 500 105.   | 124          | Seedlings, Amla and Mango seedlings                          |
| Bio Product distribution    | 750 K gs   | 420          | Bio inoculants ( <i>Pseudomonas</i> , <i>T viride</i> , NCOE |
| $(K_{\alpha})$              | 750 Kgs    | 420          | Waste decomposer Isaria fumsorosoga)                         |
| (Kg)<br>Bio Fortilizors (a) | 2          | 146          | VAM and Vermicompost   |
| Total number of formers     | <u> </u>   | 140          | Farmers Vouths Entropropours and Extension                   |
| visited the technology      | U INUS.    | 1/33         | Officials  |
| work                        |            |              | Officials  |
| WCCK                        |            |              |  |

## 11. Training/workshops/seminars etc. attended by KVK staff

| Name of the staff   | Title                              | Dates        | Duration | Organized by        |
|---------------------|------------------------------------|--------------|----------|---------------------|
| Mr.S.Saravanakumar  | Workshop on mainstreaming          | 18.2.2021    | 1 day    | TNAU, Coimbatore    |
|                     | innovations and value added        |              |          |                     |
|                     | technologies                       |              |          |                     |
| Mr.S.Saravanakumar  | STRY - Success webinar series-1    | 25.02.2021   | 1 day    | MANAGE,             |
| Mr.R.D.Srinivasan   |                                    |              |          | Hyderabad           |
| Mr.R.D.Srinivasan   | Weeds of National Importance       | 26.02.2021   | 1 day    | Indian Society of   |
|                     |                                    |              |          | Weed Science and    |
|                     |                                    | 0.02.0001    | 2.1      | DWS, Jabalpur       |
| Mr.R.D. Srinivasan  | Furtherance in Integrated Pest     | 2.03.2021 -  | 3 days   | ICAR - NCIPM,       |
| Ma S. Sonovonolumon | Warkshop on CPBO                   | 04.03.2021   | 1 day    | ICAP Department     |
| Mr.S.Saravanakumar, | workshop on CBBO                   | 05.05.2021   | 1 day    | ICAR - Department   |
| Prahakaran          |                                    |              |          | of Cooperatives     |
| Mr P Pachiappan     | Scope of Medicinal plant           | 16.03.2021   | 1 dav    | ICAR IIHR           |
| inin in actinappair | cultivation and marketing          | 10.02.2021   | 1 duy    | Bangalore           |
| Mrs.M.Siva          | Promotive Nutrition Sensitive      | 16.03.2021   | 5 davs   | MANAGE.             |
|                     | Agriculture among field level      | to           |          | Hyderabad           |
|                     | Women Extension Officers in        | 20.03.2021   |          |                     |
|                     | Southern India                     |              |          |                     |
| Ms. Siva, SMS (Home | Innovative Agricultural Extension  | 28th to 30th | 3 days   | MANAGE,             |
| Science)            | Approaches by Agri-startups and    | April 2021   |          | Hyderabad           |
|                     | Agripreneurs                       |              |          |                     |
| Ms. Siva, SMS (Home | Intellectual Property Rights       | 30th April   | 1 days   | Agri-Business       |
| Science)            |                                    | 2021         |          | Incubation Center,  |
|                     |                                    |              |          | ICAR, NIVEDI,       |
|                     |                                    |              |          | Bangalore           |
| Mr.P.Pachiappan     | Reginal mass awareness             | 13.5.2021    | 1 days   | ICAR-IIFSR and      |
| Mr.S.Saravanakumar  | Campaign on organic farming        |              |          | TNAU                |
| Mr.R.D.Srinivasan   |                                    | 20           | 2.1      |                     |
| Mr.R.D.Srinivasan   | Bee Keeping: Opportunities and     | 20 -         | 2 days   | National Bee Board  |
|                     | Challenges                         | 21.05.2021   |          | and AICRP (Honey    |
|                     |                                    |              |          | Bee and Pollinator) |
|                     |                                    |              |          | Entomology          |
|                     |                                    |              |          | SKUAST Jommu        |
|                     |                                    |              |          | Jammu and           |
|                     |                                    |              |          | Kashmir             |
| D John Prabakaran   | Resilience and cope-up strategies  | 09.06.2021   | 1 dav    | CIAE Coimbatore     |
|                     | in pandemic women's perspective    | 07.00.2021   | 1 duy    | en ill, connoutore  |
| S.Saravanakumar     | Participated in the workshop on    | 11.06.2021   | 1 day    | IFGTB,              |
|                     | popularization of eucalyptus clone |              | 5        | Coimbatore          |
| S.Saravanakumar     | IFS for Doubling farmers income    | 17.06.2021   | 1 day    | TNAU, Coimbatore    |
| R.D.Srinivasan      |                                    |              |          |                     |
| M.Siva              |                                    |              |          |                     |
| A.Premalatha        |                                    |              |          |                     |

| Name of the staff      | Title                               | Dates      | Duration | Organized by      |
|------------------------|-------------------------------------|------------|----------|-------------------|
| R.D.Srinivasan         | National Workshop on Good           | 17-        | 2 days   | MANAGE,           |
|                        | Practices in DAESI                  | 18.06.2021 |          | Hyderabad         |
|                        | implementation                      |            |          |                   |
| R.D.Srinivasan         | National webinar on Sustainable     | 30.06.2022 | 1 day    | NIPHM,            |
|                        | management of birds in agri-        |            |          | Hyderabad         |
|                        | horticultural ecosystem             |            |          |                   |
| S.Saravanakumar        | Awareness of current BIS            | 29.07.2021 | 1 day    | TNAU, Coimbatore  |
|                        | activities in agriculture and its   |            |          |                   |
|                        | allied subject                      | 00.07.0001 | 1.1      |                   |
| P.Pachiappan           | High dencity planting mango         | 09.07.2021 | l day    | TNAU, Coimbatore  |
| S.Saravanakumar        | Sustainable intergrated croping     | 07.07.2021 | l day    |                   |
|                        | and farming system models with      |            |          |                   |
|                        | special reference to banana for     |            |          | NDCD Trichy       |
|                        | Vagatable grafting                  | 22.7.2021  | 1 day    | INKCB, ITICITY    |
|                        | remunerative formers friendly       | 22.7.2021  | 1 day    |                   |
| P Pachiannan           | technology                          |            |          | TNAU Coimbatore   |
| M Siva                 | Roles and responsibilities of       | 31.07.2021 | 2 days   | Society of Krishi |
| 111.0174               | Home Scientist in a KVK             | &          | 2 augs   | Vigyan Kendras    |
|                        |                                     | 01.08.2021 |          | New Delhi         |
| S.Saravanakumar        | State level training on organic     | 04.08.2021 | 1 dav    | DoEE and SOA      |
|                        | Agriculture                         |            |          | Department,       |
|                        |                                     |            |          | TNAU, Coimbatore  |
| S.Saravanakumar        | Mechanization in Rize               | 05.08.2021 | 1 day    | TNAU Coimbatore   |
| R.D.Srinivasan         | Economic of Natural Farming         | 10.08.2021 | 1 day    | MYRADA and        |
|                        |                                     |            |          | Welt hunger hilfe |
| A.Premalatha           | High yielding rice varieties with   | 12.08.2021 | 1 day    | DoEE, TNAU,       |
|                        | special reference to the season and |            |          | Coimbatore        |
|                        | Agro-climatic zones of Tamilnadu    |            |          |                   |
| S.Saravanakumar,       | Mechanised Sett treatment system    | 19.08.2021 | 1 day    | Directorate of    |
| R.D.Srinivasan, D.John | to improve delivery of Plant        |            |          | Extension         |
| Prabakaran             | Protection chemicals and agro       |            |          | Education, TNAU,  |
|                        | inputs in Sugarcane and other       |            |          | Combatore and     |
|                        | vegetatively propagated crops       |            |          | ICAR Sugarcane    |
|                        |                                     |            |          | Geimhatara        |
| <b>D S</b> riniyasan   | National wabiner on Integrated      | 27.8-      | 1 day    | Collindatore      |
| K.D.SIIIIIVasaii       | Pasts Management: A Paradigm        | 27 &       | 1 day    | Centre for        |
|                        | Shift                               | 28.08.2021 |          | Integrated Pests  |
|                        | Shirt                               |            |          | Management        |
|                        |                                     |            |          | (NCIPM). New      |
|                        |                                     |            |          | Delhi.            |
| A.Tamilselvan          | Documentation and its importance    | 17 -       | 2 days   | MYRADA,           |
|                        | · ·                                 | 18.09.2021 |          | Bangalore         |
| S.Saravanakumar        | Strategies for climate risk         | 20-        | 5 days   | CRIDA, Hyderabad  |
| A.Premalatha           | management and resilient farming    | 24.09.2021 | -        |                   |

| Name of the staff | Title                            | Dates        | Duration | Organized by       |
|-------------------|----------------------------------|--------------|----------|--------------------|
| S.Saravanakumar   | Alternate cropping and food      | 29-          | 3 days   | ICAR IIFSR,        |
|                   | system to conserve resources and | 30.09.2021   |          | Modipuram, UP      |
|                   | address global issues            | to 1.10.2021 |          |                    |
| G.Thirumalaisamy  | Advances in Veterinary Research  | 1 -          | 21 days  | ICAR- Indian       |
|                   | for Sustainable Development of   | 21.09.2021   |          | Veterinary         |
|                   | Livestock Sector                 |              |          | Research Institute |
|                   |                                  |              |          | (IVRI) Regional    |
|                   |                                  |              |          | Station, Palampur, |
|                   |                                  |              |          | H.P. and National  |
|                   |                                  |              |          | Agriculture        |
|                   |                                  |              |          | Development        |
|                   |                                  |              |          | Cooperative Ltd.   |
|                   |                                  |              |          | Baramulla          |
| Dr.Thirumalaisamy | Advanced Dairy Animal Nutrition  | 13-18-12-    | 6 days   | Animal Nutrition   |
|                   | Management: The Way Forward      | 2021         |          | Division, ICAR-    |
|                   |                                  |              |          | NDRI, Karnal,      |
|                   |                                  |              |          | Haryana            |
| Mrs.M.Siva        | Gender and Nutri- sensitive      | 23.12.2021   | 1 day    | ATARI, Hyderabad   |
|                   | Agriculture                      |              |          |                    |

## 12. Details of sponsored projects/programmes implemented by KVK

| S.<br>No | Title of the programme / project   | Sponsoring<br>agency   | Objectives  | Duration  | Amount<br>(Rs) |
|----------|--|--|---|---|----------------|
| 1        | Organic Rosemary<br>cultivation and value<br>addition for small and<br>marginal farmers<br>through farmers<br>collectives  | NABARD<br>Regional Officer,<br>Chennai   | To promote Rosemary<br>aromatic crop among<br>small and marginal<br>farmers in the hilly area   | 1 Year<br>(11.02.2021)<br>10.02.22)                               | 15,00,000      |
| 2        | NABARD - Agriculture<br>Produces Preservation<br>Lifecycle Enhancement<br>Systems (APPLE)<br>Project                       | NABARD<br>Regional Officer,<br>Chennai   | To demonstrate of UV-C<br>Technology for<br>enhancement of Shelf-<br>Life of Vegetables &<br>Fruits through FPO   | 6 Months<br>(January<br>2021 to June<br>2021)                     | 23,06,315      |
| 3        | Lantana Camara<br>handicraft Training<br>Programme   | NABARD<br>Regional Officer,<br>Chennai   | To provide skill training<br>on craft making from<br>lantana camara for tribal  | 60 Days<br>(September<br>2021 &<br>October<br>2021)               | 4,41,300       |
| 4        | LEDP on "Value<br>Addition in Indigenous<br>Bargur Cow Milk and<br>Cow by-products"  | NABARD<br>Regional Officer,<br>Chennai   | To produce various<br>value-added milk<br>products and cow based<br>by-products based on the<br>market demand   | 3 months<br>(09.11.2021<br>-<br>08.02.2022)                       | 7,15,500       |
| 5        | Formation and<br>Promotion of 1 Farmer<br>Producer Organisation<br>(FPO) for Animal<br>Husbandry Activities<br>und PODF-ID | NABARD<br>Regional Officer,<br>Chennai   | To increase the economic<br>importance of traditional<br>native breeds through<br>value chain initiatives and<br>appropriate market<br>linkages through FPO                   | 3 Years<br>(31.03.2021<br>-<br>30.03.2024)                        | 8,90,000       |
| 6        | NABARD – Integrated<br>Tribal Development<br>Project (ITDP) in Bargur<br>Hills, Erode District                             | NABARD –<br>Integrated Tribal<br>Development<br>Project (ITDP) in<br>Bargur Hills,<br>Erode District | To promote sustainable<br>livelihood activities in<br>tribal families through<br>farm activities, soil and<br>water conservation, IFS,<br>and animal husbandry<br>enterprises | 5 Years<br>(06.12.2021<br>to<br>05.12.2026                        | 45,04,625      |
| 7        | DEASI Training<br>Programme for<br>Agriculture Input<br>dealers  | MANAGE,<br>Hyderabad   | To make input dealers an<br>effective source of farm<br>information at the village<br>level (one stop shop) for<br>the farmers  | 1 Year<br>(March<br>2021 to Feb<br>2022)                          | 7,40,000       |
| 8        | Tree Growers Mela<br>2021  | IFGTB<br>Coimbatore  | To create awareness on<br>cultivation of Cadamba<br>tree among the farmers in<br>Erode district   | 1 Day<br>(20.09.2021)   | 1,00,000       |
| 9        | Skill Training<br>Programme for Rural<br>Youths (STRY)   | State Agriculture<br>Department,<br>Erode District   | <ul> <li>To provide skills on value addition in millet</li> <li>To provide skills on concentrate feed</li> </ul>  | 1 Week<br>(01 to<br>06.02.2021)<br>1 Week<br>(19 –<br>24.09.2021) | 42,000         |

|    |                   |                   | preparation<br>techniques |        |             |
|----|-------------------|-------------------|---------------------------|--------|-------------|
| 10 | Maize cultivation | Tamil Nadu Rural  | To educate the farmers on | 3 Days | 1,34,904    |
|    | framing programme | Project, Chennai. | maize                     |        |             |
|    |                   | Total             |                           | •      | 1,14,16,644 |

## Project Number: 1

| Funding Agency          | NABARD   |
|-------------------------|--|
| State/Central/Over Seas | Central  |
| Title                   | Organic Rosemary cultivation and value addition for small and marginal farmers |
|                         | through farmers collectives  |
| Objectives              | To promote Rosemary crop among small and marginal farmers in the hilly area    |
| Study area              | Talavadi   |
| Methodology             | Capacity Building and Demonstration  |
| Team Members            | SMS (Horticulture & Agricultural Extension)                                    |
| Budget                  | Rs.15,00,000.00  |

## Project Number: 2

| Funding Agency          | NABARD  |
|-------------------------|---|
| State/Central/Over Seas | Central   |
| Title                   | NABARD - Agriculture Produces Preservation Life cycle Enhancement Systems     |
|                         | (APPLE) Project   |
| Objectives              | To demonstrate of UV-C Technology for enhancement of Shelf-Life of Vegetables |
|                         | & Fruits through FPO  |
| Study area              | Gobi, Kallipatti and Perundurai   |
| Methodology             | Demonstration by using UVC Lights to preserve the vegetables shelf life       |
| Team Members            | SMS (Agronomy & Horticulture)   |
| Budget                  | Rs.23,06,315.00   |

#### **Project Number: 3**

| Funding Agency          | NABARD   |
|-------------------------|--|
| State/Central/Over Seas | Central  |
| Title                   | Skill Training on Lantana Camara handicraft                              |
| Objectives              | To provide skill training on craft making from lantana camara for tribal |
| Study area              | Hasanur  |
| Methodology             | Skill training   |
| Team Members            | SMS (Agronomy & Extension)   |
| Budget                  | Rs.4,41,300.00   |
|                         |  |

## Project Number: 4

| Funding Agency          | NABARD  |
|-------------------------|---|
| State/Central/Over Seas | Central   |
| Title                   | LEDP – Value Addition in Indigenous Bargur Cow Milk and Cow by-products"        |
| Objectives              | To produce various value-added milk products and cow based by-products based on |
|                         | the market demand   |
| Study area              | Bargur  |
| Methodology             | Skill training  |
| Team Members            | SMS (Animal Science)  |
| Budget                  | Rs.7,15,500.00  |

## Project Number: 5

| Funding Agency          | NABARD   |
|-------------------------|--|
| State/Central/Over Seas | Central  |
| Title                   | Formation and Promotion of 1 Farmer Producer Organisation (FPO) for Animal     |
|                         | Husbandry Activities und PODF-ID   |
| Objectives              | To increase the economic importance of traditional native breeds through value |
|                         | chain initiatives and appropriate market linkages through FPO                  |
| Study area              | Bargur hilly region  |
| Methodology             | Promotion of FPO   |
| Team Members            | SMS (Animal Science & Extension)   |
| Budget                  | Rs.8,90,000.00   |
| Project Number: 6       |  |
| Funding Agency          | NABARD   |
| State/Central/Over Seas | Central  |
| Title                   | NABARD – Integrated Tribal Development Project (ITDP) in Bargur Hills, Erode   |
|                         | District   |
| Objectives              | To promote sustainable livelihood activities in tribal families through farm   |
|                         | activities, soil and water conservation, IFS, and animal husbandry enterprises |
| Study area              | Bargur hilly areas   |
| Methodology             | Skill training and demonstration   |
| Team Members            | SMS (Agronomy, Horticulture, Animal Science, Soil Science, Home Science)       |
| Budget                  | Rs.45,04,625   |

## Project Number: 7

| Funding Agency         | MANAGE, Hyderabad  |
|------------------------|--|
| State/Central/Overseas | Central  |
| Title                  | DEASI Training Programme for Agriculture Input dealers                             |
| Objectives             | To make input dealers an effective source of farm information at the village level |
|                        | (one stop shop) for the farmers  |
| Study area             | Erode District   |
| Methodology            | Training, Demonstration, Exposure  |
| Team Members           | SMS (Plant Protection & Agronomy)  |
| Budget                 | Rs.7,40,000  |

## **Project Number: 8**

| Funding Agency         | Indian Forest Genetic Tree Breeding, Coimbatore                               |
|------------------------|---|
| State/Central/Overseas | Central   |
| Title                  | Tree growers mela   |
| Objectives             | To create awareness on cultivation of Cadamba tree among the farmers in Erode |
|                        | district  |
| Study area             | Gobichettipalayam   |
| Methodology            | Awareness Programme   |
| Team Members           | SMS (Horticulture)  |
| Budget                 | Rs.1,00,000   |

## **Project Number: 9**

| Funding Agency         | State Agriculture Department, Erode  |
|------------------------|--|
| State/Central/Overseas | State  |
| Title                  | Skill Training Programme for Rural Youths (STRY)                               |
| Objectives             | To provide skills on value addition in millet and Concentrate Feed preparation |
|                        | techniques.  |
| Study area             | Gobichettipalayam & Kallipatti   |
| Methodology            | Skill training and method demonstration  |
| Team Members           | SMS (Home Science) & SMS (Animal Science)                                      |
| Budget                 | Rs.84,000  |

## Project Number: 10

| Funding Agency         | Tamil Nadu Rural Transformation Project, Chennai.         |
|------------------------|---|
| State/Central/Overseas | State   |
| Title                  | Scientific Maize cultivation                              |
| Objectives             | To educate the farmers on scientific cultivation of maize |
| Study area             | Gobichettipalayam   |
| Methodology            | Training  |
| Team Members           | SMS (Agronomy)  |
| Budget                 | Rs.1,34,904   |

#### 13. Success stories

#### **<u>1. Multi-Tier Cropping System for enhancing profitability in Cotton</u>**

#### Introduction:

Mono cropping is exception, while mixture (of species) is the rule of nature. In intercrop system and multi-tier systems, the possibility of more efficient use of resources like sunlight, nutrients and water is leading to increased biological diversity and higher production stability. The introduction of noncompetitive, short duration, multi intercrops into sole cotton, salvaged the risk perturbed by mono cropping. In addition, the root systems of the component crops are also located at distinct zones to explore the soil for moisture and nutrients. Intercrops were observed to serve as an insurance against the menace of pest and disease, vagaries of weather, market fluctuation and help to increase the net profit to growers.

Since cotton is a crop of relatively longer duration, its slow initial growth offers a vast scope for cultivation of suitable intercrops including short duration pulses and vegetables. An ideal cotton based multi-tier vegetable intercropping should aim to produce higher economic return and yields per unit area, offer greater stability in production, meet the domestic needs of the farmer. Based on the diverse features of the crops, the crops can be selected for increasing the profitability and better utilization of natural and applied resources in the cotton based cropping system.

#### **Relative Advantages Multi-Tier Systems**

- Increasing the production potentiality
- Enhanced the effective utilization of natural and applied resources
- Increased the input use efficiency
- Reducing the crop weed competition ratio
- Income flow will be ensured through periodical intervals.
- Soil fertility will be sustained
- Created additional employment opportunity to the family laborers

#### Suitable Crops for Multi-Tier cropping system in Cotton

Based on the duration, rooting behaviors, nutrient absorption level and different group of families crop can be selected for intercropping as well as for multi tier cropping system. Some of the suitable crops for intercropping and multitier cropping are listed below

**Pulses:** Crops like, black gram, green gram and cowpea can be selected for intercropping in cotton. This will help to reduce the weed growth, additional income and increase the soil fertility through root nodulations.

**Vegetables:** Profitable vegetable crops like, beetroot, radish, cluster bean, beans, coriander, greens and dolichos can be selected for intercrop as well as for multi-tier cropping system in cotton. This will ensure the regular income from the field at periodical interval apart from reducing the weed growth.

#### Economic feasibility of multi-tier cropping system in cotton: A Case Study

Cultivation of cotton crop along with different vegetable crops in multi-tier system can be profitable and sustainable model for the farmers in western zone of Tamilnadu. Mr. K. Ramachandran a progressive farmer from Ramachipalayam village of Erode District, successfully adopting multi-tier cropping system in cotton in his 2 acre land. According to his experience, inter cropping with high value vegetable crops is the viable option for reducing the weed growth and increasing the productivity per unit area. He is cultivating cotton crop during the rabi season with 120 cm row spacing. In order to utilize the interspaces effectively he is adopting multi-tier cropping system with crops like, beetroot, radish and coriander crop. Foliar application of vegetable boosters and cotton plus micronutrients was adopted according to the Tamilnadu Agricultural University recommendations. Periodical harvest of intercrops coriander 30 DAS (Days after Sowing), radish (50 DAS), and beetroot (90 DAS),

leads to less competition within the component crops which ultimately resulted in higher cotton yield and also the inter crop yield.

| Cropping<br>system                  | Yield of<br>cotton<br>(q/ha) | Yield of multi tier<br>crops (q/ha)   | Gross cost | Gross<br>Return | Net Return | BCR  |
|-------------------------------------|------------------------------|---------------------------------------|------------|-----------------|------------|------|
| Cotton +<br>Radish +<br>Coriander   | Cotton -<br>18.69            | Radish - 47.75<br>Coriander - 32      | 93,920.00  | 2,06,767.00     | 109917.00  | 2.13 |
| Cotton +<br>beetroot +<br>coriander | Cotton -<br>18.87            | Beetroot - 46.38<br>Coriander - 30.20 | 96,850.00  | 1,92,548.00     | 98,628.00  | 2.05 |
| Cotton sole<br>crop                 | Cotton -<br>18.78            | -                                     | 77,150.00  | 1,09,264.00     | 32,114.00  | 1.42 |

**Table 1:** Yield and economics of multi-tier cropping system in cotton

He harvested 18.78 quintal seed cotton yield in the sole crop whereas in radish, coriander system he got an average yield of 18.69 quintal / ha with 47.75 quintal radish and 32 quintals of coriander yield from one hectare area. This provides the highest net return of Rs. 1, 09, 917 / ha with the benefit cost ratio of 2.13 (Table 1). Similarly he got a net return of Rs. 98,628/ha in the cotton, beetroot and coriander system with the benefit cost ratio of 2.05. Among the multitier system tested in cotton, intercropped with radish and beetroot is found to be more diversified and sustainable one.



Cotton with Radish



Diagnostic Field visit by KVK scientists





Field view with Farmer

#### 2. Experiences of Drone usage in Farming Activities

#### Introduction:

The technological improvements in agriculture have brought about revolutionary change in agricultural production system. However, it is imperative to enhance input use efficiency for enhancing net profit from farming and mitigating the adverse effect on ecosystem. The interweaving of information and electronic technology for agricultural production system to determine, analyses and manage the critical temporal and spatial factors of farm for maximizing profitability, sustainability and environmental protection is need of hour.

In the present era of agriculture system, amalgamation of sensors, satellites, digital technology, and robotics is indeed need for paving the way for precision, profitable and environmentally safe farming. Harnessing the capability of robotics for coping with business competition, environmental challenges such as reducing the ecological footprint of agriculture, and increasing food production is an opportunity and robotics may be boon for achieving the target. Drones or unmanned airborne vehicles (UAV) play a critical role in the recent farming activities such as application of liquid fertilizers, pesticides in a precise manner with the specific aerial reconnaissance.

#### **KVK Intervention:**

ICAR, KVK – MYRADA in association with Rotary club, Gobichettipalayam and Mivi Pro products, Gobichettipalayam demonstrated the usage and application of drones in agriculture. The first demonstration in initiated in 2020 and demonstrating the same in the subsequent years over the area of 1600 acre area in three seasons.

Wild boars and rabbit are the major crop losing factors in the paddy and other crops. The farmer cum entrepreneur Mr. G.V.Sudharsan from Gobichettipalayam of Erode district developed an innovative product called "Herboliv<sup>+</sup>" to protect the crop from wild animals and vertebrates. Kendra demonstrated this innovative product with the support of drone to know about the efficacy of the product as well as drone.

| Year                 | Total area covered (acre) | Major crops covered      |
|----------------------|---------------------------|--------------------------|
| 2020 – Samba season  | 863                       | Paddy and fruit orchards |
| 2021 – Kharif season | 497                       | Paddy and fruit orchards |
| 2020 – Rabi season   | 240                       | Paddy and fruit orchards |

#### **Outcome & Impact:**

The detailed study was conducted during this period to assess the suitability and effectiveness of drone application in agriculture with the parameters like input consumption, labour dependency, time to cover an acre area, cost involvement, accuracy of application and health aspects of spray man.

| Parameters                  | Manual spraying  | Drone spraying   |  |  |
|-----------------------------|--|--|--|--|
| Input consumption           | 12 litre / acre  | 4.2 litre / acre<br>60 percent input consumption is reduced  |  |  |
| Coverage time               | 1 hour   | 10 minutes   |  |  |
| Cost for application / acre | Rs. 450.00   | Rs. 375.00   |  |  |
| Labour dependency           | Shortage of skilled labour<br>2 labours required   | Drone operator and the farm owner is<br>enough to cover the area. The cost of<br>operator is covered in the application<br>cost itself |  |  |
| Accuracy of application     | Cannot be assured  | 100 % spray assured with the aerial reconnaissance   |  |  |
| Health aspects              | <ul> <li>The farmers move on to the field<br/>and requires more energy to<br/>cover the area.</li> <li>Skin and gut infections observed<br/>over the period of time</li> </ul> | No harmful and 100 % free from scorching effects   |  |  |









#### **Cassava variety (Yethapur -2) – a boon to cassava growers** 3.

#### Introduction:

Cassava (Manihot esculenta), also known as monihot and belongs Euphorbiaceae family. Cassava is a major horticulture important commercial crops cultivated over 20000 ha in Erode district. This is the major crop in the block of Anthiyur, Talavadi, Gobichettipalayam, Sathyamanglam and Modakurichi of Erode, 58% of tapioca produced is used as human food, 28 % as animal feed, 4% in starch-based industries and only 10 per cent is spoiled. In general, the yield of tapioca is getting reduced year by year, pest and diseases like spiraling white fly, cassava mosaic virus, tuber rot are affecting the crop badly, good quality seed material is not available, the existing varieties



yield potential have come down and new varieties not spread among most of the farmers, fluctuating cost of tubers. Due to the above reason, farmers are finding alternate variety for ensuring their farm income. Keeping this in view, KVK taken up trials on identification of YTP -2 Cassava varieties for replacing the old varieties in Erode.

#### **KVK Interventions**

- KVK conducted on farm trial during 2019-20 to identify the suitable variety for the prevailing agro climatic condition of Erode district.
- YTP-2 variety released from Tapioca and Castor Research Station, TNAU, Yethapur found more suitable to this region, which matures in 270-300 days, and the realized yield 46.2t/ha. starch content is 29.62%, plants are erect, medium growing and top branching type, suitable to irrigation conditions and with partial irrigation under rainfed conditions and tolerant to drought and salt, when compared to the ruling varieties (Mulluvadi, YTP-1).
- The selected progressive farmers trained on improved crop management practices on cassava cultivation and supported with seed setts. From sowing to harvest, KVK scientists made periodical visit to provide technical advisory services for getting optimum yield.
- IIHR arka vegetable special were provided to the trial farmers to increase the tuber yield
- Assistant professor from TCRS, Yethapur visited the field to know about its surveillance during the cropping period, Based on its performance, KVK demonstrated the same variety in the subsequent year in different blocks of Erode district with the support of line departments.

| Year of<br>interventions | KVK interventions | Farmers<br>benefited |
|--------------------------|-------------------|----------------------|
| 2019                     | FLD, Training,    | 10                   |
|                          | Demonstration,    |                      |
| 2020                     | Exposure, Seed    | 50                   |
|                          | multiplication    |                      |
| 2021                     | 1                 | 150                  |

#### **Outcome and Impact**

- KVK identified YTP-2 suitable for the Erode district climatic conditions
- 48.91% yield increase was recorded than the existing varieties
- An additional income of Rs. 58962 / Ha was realized in YTP-2 variety
- Currently 25 ha areas covered by this variety in Erode district.
- KVKs supplied seed materials nearby districts KVKs like Krishnagiri, Thiruipur Karur to conduct demonstrations and Department of Horticulture, Modakurishi supplied from our FLD farmers for wider disseminations.



| 6    | 14 |     | 201 |
|------|----|-----|-----|
| Sec. |    | 201 |     |
| 24   | 1  |     |     |

produced 24 ton Tubers /acre/year by adopting this YTP-2 variety and earned Rs. 71962/year(Tuber and stems) He supplied 6000 of stems to KVK, Department of Horticulture and other needy farmers in the district. The starch content was recorded 31.00% which was highly preferred in the market for sago industries

Mr. Tamilselvan from Nagadevampalayam village Gobi block has

#### 4. Composting of Farm wastes by using NCOF Waste decomposer

#### Introduction

Organic farming is gaining momentum in the recent past but at the same time availability of organic inputs for farming activities are inadequate, due to the reduction in animal population among the farming communities. Enhancing and enriching the available farm wastes is the need of the hour. Generally farmers are adopting heap / pit method of manure composting process which requires six month time for compost processing. In order to overcome this problem, KVK conducted trial on the use of NCOF waste decomposer for conversion of agricultural wastes which enhances composting process. "Waste decomposer- A way of doubling farmer's income" developed by National Research Centre of Organic Farming (NCOF), Ghaziabad. It comprises several beneficial microorganisms and is able to convert all types of crop and animal residues and kitchen waste into valuable manure form within 30-50 days depending upon the raw material or waste is used. It can also be used in various ways such as quick composting of bio-wastes, drip irrigation, foliar spray against crop pest and disease management, seed treatment and in-situ composting of crop residues. Single bottle (30 ml) decomposes bio-waste of more than 10,000 metric tons.

#### **KVK Intervention**

- KVK conducted trials, training and method demonstration about mass multiplication of waste decomposer and its usages in conversion of waste to wealth to benefit 2345 farmers in the district.
- NCOF Waste decomposer enhances composting process in 39 days which saves 135 days against conventional method of composting. The decomposer culture can be mass multiplied by farmers in their respective farm itself.
- KVK trained Krishi mitra and CMRC to establish NCOF waste decomposer mass multiplication unit at field level.
- As part of Swachh Bharat programme, KVK created awareness campaign and method demonstration of waste decomposer by involving 9456 farmers, farm women, villagers, municipality officials and other people.
- KVK developed IEC material for wider adoption of this technology
- As part of extension activity, Kendra used print and electronic media to popularize this intervention.

#### **Outcome and Impact**

- KVK established mother culture of waste decomposer production unit and supplied 67500 litres to 32128 farmers in the district.
- KVK supported village level technocrat to establish waste decomposer unit. So far 5000 farmers and other stakeholders has established waste decomposer multiplication unit at their farm level
- ARYA Bio inoculants production rural youths involved for wider adoption of the technology.







## 5. Success of Bee Keeping Enterprise - Collective Approach

#### Introduction

Bee keeping is one of the oldest traditions in India for collecting honey. Honey bees play a vital role in pollination and sustainable eco system management. Intensive cultivation, heavy usage of chemical fertilizers and pesticides leads to drastic reduction in bee colonies. Conserving bees are the important in the recent scenarios and government give more focus on honey bee rearing activities. To promote honey bee farming as a cluster approach, KVK took intensive effort on organizing systematic training and extension programmes at district level

#### **KVK Interventions**

- KVK established model bee keeping unit act as a resource and knowledge centre.
- KVK organized 17 skill training programmes to the 590 volunteer farmers and entrepreneurs on bee keeping and supported farmers to establish cluster level honey production unit with the support of CSR project.
- Farmers established cluster level honey production units in 8 blocks of Erode district.
- KVK developed user guide on "Honey bee Rearing" for the benefit of farmers and extension functionaries.

#### **Outcome and Impact**

- 8 honey bee cluster formed by covering 590 farmers in the district.
- 42 branded honey based products were developed and marketed through farmers outlets, FPOs, exhibitions and other institutions
- 300 kg/month of honey produced and marketed by the KVK promoted clusters.
- KVK promoted successful entrepreneurs honoured at national level by various organizations.
- Extended technical assistance for establishment of honey bee farm to the farmers in nearby districts like Salem, Thiruppur, Krishnagiri, Thiruvannamalai and Coimbatore district

#### Bee keeping enterprise

*Mr.* Kathirvel is a successful honey bee entrepreneur for the past 10 years residing in Kannakkampalayam village. He is rearing Indian and stingless bees in his farm. He is a master trainer in honey bee rearing and value addition in honey based products. Rearing more than 200 bee boxes in his farm and producing 300 kg of honey per month. He is earning Rs. 30,000 per month from honey enterprise.









#### 6. Vertical Farming - Ensures Nutritional Security of Households

#### Introduction

The population explosion resulted in migration of people from rural areas to urban areas for income generation. Due to migration of peoples most of the agriculture lands are converted into residential areas, resulted with decreased production of fruits and vegetables. Dietitians recommend 85 grams of fruits/day, 300 grams of vegetables/day, whereas the present day consumption of fruit is only 30 grams/day and vegetables is 120 grams/day. This can be solved by growing vegetables at our home so that we can choose and ensure the opportunities to get fresh vegetables. A vertical farming is an innovative of cultivating vegetables where the crops grows in a layer system (Vertically) using grow bags with support system within limited space and dish system



wherein creepers can be grown in limited space, nutrients and water saving concept

#### **KVK Intervention**

- KVK conducted 42 training on home gardening with vertical farming system and covered 625 members.
- KVK developed vertical farming system at instructional farm with different models
- IEC material developed for the benefit of all the end users
- KVK demonstrated vertical farming in two types i.e. *Dishpandhal* and *Rack system*
- KVK established AESC (AgriEntrepreneur Service Centre) to extends support for establishing vertical farming units

#### **Outcome and Impact**

- By adopting this technology, 35-40% water could be saved. Hence, growing vegetables from this method could increase the water use efficiency.
- KVK promoted Thenkoodu CMRC (Community Managed Resource Centre) established different models of vertical farming system for vegetable production for the benefit of SHG women and farmers at village levels.
- The technology supported for 35 families and 1 residential school to get fresh vegetables in their noon meal programme.
- More than 5685 farmers, farmwomen, school and college students of Erode and other parts of the state visited the technology.
- KVK extended technical support for establishing vertical system in Krishinagiri, Coimbatore and nearby district farmers
- One women technocrat trained on Grow Bags and accessories manufacturing, also provides traditional seeds, seedlings, and growth promoter. The *YouTube* channel created called *"Mayura Creation"* for providing end to end solution in home gardening, more than 2000 videos shared in this YouTube channel on vegetable production technology
- Innovative one cent model Dish pandhal system designed and established at KVK and farmer's field like Two dish type, Four dish type and hexogen models in one cent area.

| Vertical farming |                    |                           |                                       |  |
|------------------|--------------------|---------------------------|---------------------------------------|--|
| Year             | No. of<br>training | Number of<br>participants | No. of<br>model<br>units<br>developed |  |
| 2017             | 6                  | 84                        | 2                                     |  |
| 2018             | 8                  | 112                       | 12                                    |  |
| 2019             | 12                 | 164                       | 18                                    |  |
| 2020             | 16                 | 265                       | 24                                    |  |
| 2021             | 18                 | 321                       | 27                                    |  |

| Yield from Rack system |                           |  |  |
|------------------------|---------------------------|--|--|
| Crop                   | Yield/ *Cent/ Season (kg) |  |  |
| Tomato                 | 72                        |  |  |
| Chillies               | 45                        |  |  |
| Bhendi                 | 72                        |  |  |
| Cluster beans          | 54                        |  |  |
| Lablab                 | 36                        |  |  |
| Brinjal                | 54                        |  |  |
| *1 cent= 108 bags      |                           |  |  |
| Yield from             | Dish Pandhal(kg/cent)     |  |  |
| Snake gourd            | 37                        |  |  |
| Bottle gourd           | 31                        |  |  |
| Ribbed gourd           | 26                        |  |  |
| Bitter gourd           | 32                        |  |  |

## 7. <u>Successful Women Agripreneur in IFS and Value Addition</u>

Mrs. Kavitha resides in Anuparapalayam village of Sathy block. She is 39 years old, completed her MBA degree and involved in farming in their 3 acres of wet land for 12 years. She is cultivating Sugarcane, Banana, Coconut, Mixed Fodder with the support of her family members. Since she from agriculture background, she has passion in agri related activities like Dairy farming, Dog breeding, Desibird rearing Vermi compost production, Bee rearing and Black soldier production. She is attending regular training and exposures at KVK and utilizes its services for her farm development. Her farm stands as a model resource centre for Integrated Farming System in Sathy block.

## **KVK intervention:**

- Capacity building programme on Integrated Farming System (IFS)
- Attended training on Post harvest and Value addition in farm produces under STRY programme programme
- Attended Two months course on Agri-preneurship development at TBI, TNAU, Coimbatore
- Attended one month course on Organic farming and vermicomposting under ASCI at KVK Erode
- Completed one year diploma course (DAESI) in agriculture with KVK Erode
- Invited as Resource person for KVK, Colleges and Departments of Agriculture
- KVK supported her to enroll as members in n Technology Incubation at TBI, TNAU, Coimbatore

## **Components practiced with IFS concept:**

- Major crops Sugarcane, Banana
- Desi Bird parental stock unit (100 Nos)
- Milch animal (4 No)
- Sheep rearing (8 Nos)
- Dog Breeding (2 breeds)
- Black soldier fly unit (3 unit)
- Vermicompost production (1 ton capacity)
- Nursery (Arecanut 500 No)
- Bee Boxes-8 Nos.
- Food processing Unit (Value addition in coconut, millets, Turmeric powder, Masala powders and Nutrimix)

## **Outcome and Impact:**

- Established Integrated Farming System unit with 10 different components and act as model demo unit for conducting training programmes to farmers and other extension functionaries
- Established parental stock unit for desi birds with 6 breeds for purity maintenance
- Reduction in cost of cultivation in crops by adopting various on farm input production techniques at 30%
- Developed innovative formula for making masala powders
- She markets her products in the brand name of AARA through KVK outlet, FPOs and Online Platform
- She is earning Rs. 6,78,000 / year through IFS and value added products
- Adopting eco-friendly management practices for controlling pests and diseases
- Developed Innovative Bio Seed Coating Method and register the same in Agri Business Incubation Centre, TNAU for further validation
- Act as a Resource Person for desi bird production and value addition in agri and horticultural crops

- Farmers can avail the technological resources (earth worm, vermicompost, areca seedlings, black soldier fly worm, desi birds) for further establishment in their farm
- Innovative methods adopted by her was documented by KVK and mass media and telecasted for wider dissemination of the technologies
- On an average, 160 mandays employment opportunity provided for 2 Joint Liability Groups for product development per year

## Horizontal spread:

- More than 500 farmers and entrepreneurs visited her farm to obtain practical knowledge on IFS and value addition in the past 3 years
- Displayed her products in KVK and FPOs, TNAU TBI outlet to reach the maximum customers
- 32 rural women entrepreneurs developed and 28 IFS farmer adopted her farm technologies after visiting farm.
- Her experiences documented by Doordharsahan, Krishi Jagran and telecasted widely and she motivates young farmwomen for startup in agri-entrepreneurship.





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### 8. <u>A Success of producers Group in Conservation and Livelihood promotion of Hilly farmers</u>

#### Introduction

The livestock sector has emerged as a vital sector for ensuring a more inclusive and sustainable agriculture system. India is blessed with a huge biodiversity of 43 indigenous cattle breeds and 16 Buffalo breeds which has survived over last hundreds of years in respect of their suitability for specific purposes in concerned local environment. In Tamilnadu, 05 indigenous cattle breeds (Kangeyam, Bargur, Umblacherry, Alampadiand Pulikulam) are unique; in those Bargur cattle is a breed of dairy cattle, native to the Bargur region of Bargur forest hills in AnthiyurTaluk of Erode District in Western Tamil Nadu in India. In recent times, several of the indigenous breed population has been declined mainly due to their becoming uneconomical. Draught breeds utility has decreased because of mechanization in agriculture. In addition, existence of superior indigenous breeds can provide valuable research inputs for developing superior breeds. It is therefore important that Indigenous breeds of cattle are conserved, developed and proliferated.

#### **KVK Intervention**

Keeping this in view, ICAR KVK – MYRADA, Erode district took the initiative of bringing the importance of maintaining the Bargur breed, with the support of Erode District Collector to look for alternative way to conserve this native breeds. Since, there were no milk marketing facilities in the remote hill areas, it was decided to form milk producers group called "**Surabi milk and Agri products Producers Group**" and initially enrolled with 232 farmers and initiated the milk marketing by involving local rural youths.

The community managed resource centre (Marutham and Kurinji CMRC) promoted by KVK have facilitated the milk collection and marketing the products in the neighboring towns like Anthiyur, Gobichettipalayam and Sathyamangalam. KVK Provided capacity building progarmme on Clean milk production, Scientific feeding management – Mixed fodder cultivation and Azolla, EVM practices to manage diseases, Mineral mixture management of dairy animals and Milk value addition.

| Number of farmers benefitted                         |  |
|--|--|
| 458 Numbers  |  |
| 12 Centres (25-30 Litres per day /Centre)            |  |
|  |  |
| 2 (Anthiyur and Gobi)                                |  |
| Milk procurement canes, Lactometer, 2- Digital Milk  |  |
| analyzing Machine, 320 Litres capacity Milk cane     |  |
| coolers- 2 numbers, Vehicle for Milk Transportation, |  |
| Cream Separator, Curd Churning Machine               |  |
|  |  |

Surabi Milk and Agri Products Producers Group- Convergence

| S.No | Particulars                 | No.of.Unit | Value (Rs)    | Source/Sponsor                        |
|------|-----------------------------|------------|---------------|---------------------------------------|
| 1.   | Milk Cane Cooler            | 02         | 3, 94, 592.00 | District Administration Erode         |
|      |                             |            |               | 1.Sakthi Masala Pvt Ltd, Erode        |
|      |                             |            |               | 2. Mr.Kathiravan Bargur               |
| 2.   | Insulated Sintex milk can   | 08         | 33,984.00     | District Administration Erode         |
|      | (40 litres capacity)        |            |               |                                       |
| 3.   | SS Milk cane (40 litres     | 08         | 45,312.00     | District Administration Erode         |
|      | capacity)                   |            |               |                                       |
| 4.   | Milk Cane Cooler            | 01         | 2,36,826.00   | 1.Sakthi Masala Pvt Ltd, Erode        |
|      |                             |            |               | 2. ICAR KVK, MYRADA                   |
| 5.   | SS Milk cane (40 litres     | 08         | 49,000.00     | ICAR KVK, MYRADA (SCSP 2019-          |
|      | capacity)                   |            |               | 2020)                                 |
| 6.   | SS Milk cane (40 litres     | 08         | 45,312.00     | ICAR KVK, MYRADA (Fullerton 2019-     |
|      | capacity)                   |            |               | 2020)                                 |
| 7.   | Digital Milk Analyzer       | 02 sets    | 1,02,417.00   | ICAR KVK, MYRADA (SCSP 2019-          |
|      |                             |            |               | 2020)                                 |
| 8    | Butter Churning machine     | 01         | 6000          | Surabi Milk & Agri Products Producers |
|      |                             |            |               | Group                                 |
| 9    | Curd Churning machine       | 01         | 3000          | Surabi Milk & Agri Products Producers |
|      |                             |            |               | Group                                 |
| 10   | Gerber's Centrifuge method- | 01         | 7000          | SMD Dairy, Erode                      |
|      | Milk analyzer               |            |               |                                       |
| 11   | Cream Separator Machine     | 01         | 38,000        | ICAR KVK, MYRADA (AESC)               |
| 12   | Establishment of Milk cane  |            | 30,000        | ICAR KVK, MYRADA                      |
|      | cooler unit room            |            |               | Kurinji CMRC,Bargur.                  |
| 13   | Milk Collection sub centers | 05 sets    | 15000         | Surabi Milk & Agri Products Producers |
|      |                             |            |               | Group                                 |
| 14   | i. Milk Cans                | 30         | 1,00,000      | Surabi Milk & Agri Products Producers |
|      |                             |            |               | Group                                 |
|      | ii. Digital Milk            | 01         | 40,000        | Surabi Milk & Agri Products Producers |
|      | Analyzer                    |            |               | Group                                 |
|      | iii. Ice Box                | 02         | 5,000         | Surabi Milk & Agri Products Producers |
|      |                             |            |               | Group                                 |
|      | iv. Deep Freezer            | 02         | 70,000        | ICAR KVK, MYRADA                      |
|      | v. Panner Making            | 02         | 36000         | ICAR KVK, MYRADA                      |
|      | Machine                     |            |               |                                       |
|      | vi. Two Wheeler             | 02         | 45,000        | Surabi Milk & Agri Products Producers |
|      |                             |            |               | Group                                 |
| 15   | Initial Establishment       | -          | 5,00,000      | Marutham CMRC Revolving Fund          |
|      | activities                  |            |               |                                       |
|      |                             | Total      | 20,27,443.00  |                                       |

#### **Outcome and Impact**

- During one year period 45,000 litres Bargur Bufflao milk , 12,000 Litres Bargur cow milk procured and marketed by Surabi Milk and Agri Producers group
- > This initiative straight away supported the producers to get additional income of Rs.10/- per liter of milk.
- The Bargur hill farmers are expressing that, Since the market avenue is created for their Bargur cattle and get better price, the farmers have decided not to sell their animals in future, instead they all planned to conserve the animal and to improve their livelihood.
- The value chain activity of KVK helps in increase the income of farmers and more importantly to conserve our Bargur Native breeds.
- > Employment opportunities for Bargur hills rural youth and SHG's
- > Farmers gets better price for their quality milk
- In order to scale up the milk marketing in Erode district, the milk outlet being established in 4 locations of Erode Town in order to market the A2 milk from Bargur cattles





#### 9. Empowerment of Rural Youth in Farm Enterprises

#### Introduction

Agriculture and its allied activities like Livestock management and poultry farming play vital role in sustaining the income of the farming community. In Erode district, 17 percent of the rural populations are directly involved in agriculture, the remaining are depends on the textile industries and other works. The changes in consumption pattern among the people on novelty food products and confectionaries attract youths to venture into food based micro



enterprises in rural and urban areas. In order to attract such youths in agriculture, KVK provides short and longterm skill based training programme on various agricultural and allied activities. KVK also facilitate such youths by providing handholding support to venture into new enterprises under ARYA (Attracting and Retaining Youths in Agriculture) programme.

#### **KVK** interventions

- KVK provided 18 Skill trainings on Desi bird production, on farm production of Bio inoculants, Value addition in Banana fibre and Honey enterprises by covering 363 youths in the district.
- KVK organized 16-exposure visits to SAUs, TANUVAS, KVKs and other successful entrepreneur model unit to update their skills and Knowledge.

| Name of the    | Performance of the enterprise   |
|----------------|---|
| Farm           |   |
| Enterprise     |   |
| Desi bird      | 48,000 eggs and 7,500 Kgs of meat, 5,000 chicks, 20 tons of feed have |
| production     | been produced by 10 youths  |
| Bio inoculants | 7,250 Kgs of Pseudomonas fluorescens, 4,550 Kgs of Trichoderma        |
| production     | viride, 5,000 Kgs of VAM, 35,750 litres of NCOF Waste Decomposer      |
|                | and 730 litres of Isaria fumosorosoae have been produced by 7 youths  |
| Value addition | Banana Fibre – 1000 Kg  |
| in Banana      | Mat – 300 Kg  |
|                | Handicrafts – 200 kg  |
|                | Sap water by products – 1500 kg have been produced by 10 youths       |
|                |   |
| Honey          | 4,800 Kgs of honey harvested and43nos. of value added produced were   |
| enterprises    | produced have been produced by 4 youths.                              |

• KVK supported for 48 youths to establish decentralized production units in bio inputs production, desi bird parental stock production, apiculture and banana fibre production enterprises.

#### **Outcome & Output**

- 4 enterprises promoted under ARYA project and developed 62 branded products.
- The enterprises have provided employment opportunities for 92 youths in the district
- The average income of rural youths involved in ARYA programme ranges from Rs.12,000 to 18,000/month



- Farm enterprises act as a successful model in the district for the budding entrepreneurs
- 9 ARYA successful experiences documented in the print & electronic media i.e Doordarshan, Valarum Velanmai, YouTube and Facebook
- KVK supported the youths to market their products through Agri Entrepreneur Service Centre (AESC), Community Managed Resource Centre (CMRC), FIGs, FPOs and State Department of Agriculture based on the requirements.

## 14. Details of innovative methodology, innovative technology and transfer of Technology developed and used during the year by the KVK

| Challenges       | Innovative<br>methodology<br>adopted | Output   | Outcome   |
|------------------|--------------------------------------|--|---|
| Drought tolerant | Seed Costing<br>Formulation          | Developed innovative<br>seed coating formulation | Increases the germination percentage<br>in dryland crops and yield by 15% |
| and germination  | 1 officiation                        | for all crops                                    | in dryfaild erops and yreid by 1576                                       |
| Dissemination of | Development of                       | Developed 200                                    | Provide first-hand information to the                                     |
| technologies in  | technocrats                          | Technocrats in Gobi, TN                          | farmers, season based technologies  |
| extension system |                                      | Palayam, Sathy, Talavadi,                        | transferred to the farming community                                      |
| through input    |                                      | Anthiyur, Bhavani and                            | in time.  |
| dealers          |                                      | Ammapet blocks of Erode                          |   |
|                  |                                      | district   |   |

# 15. Details of indigenous technology practiced by the farmers in the KVK operational area, which can be considered for technology development

| S.  | Crop /     | ITK Practiced                                     | Purpose of ITK                |
|-----|------------|---|-------------------------------|
| No. | Enterprise |   |                               |
| 1   | Coconut    | Pine apple extract with sugar solutions kept in   | To manage the red palm        |
|     |            | coconut farm @ 12/ha                              | weevil                        |
| 2   | Sugarcane  | Spraying of egg solution over sugarcane seedlings | Prevent the seedlings from    |
|     |            |   | rabbit damage                 |
| 3   | Brinjal    | Neem and camphor extract (Cow urine, turmeric     | To manage the fruit and       |
|     |            | powder, neem oil, champhor, calcium powder)       | shoot borer damage            |
| 4   | Cotton     | Vegal karaisal is an extract of plant leaves      | To manage the sucking pest in |
|     |            | (Lantana camara, aloe vera, mint)                 | cotton                        |
| 5   | Dairy      | Extraction of jack leaves, vilvam leaves, neem    | Treatment for Foot and        |
|     | Animal     | leave and park                                    | mouth disease                 |
| 6   | Poultry    | Cut piece of small onion mixed with keelanelli    | Treatment for ranikhet        |
|     |            | leaves given oral                                 | disease                       |

#### 16. Impact of KVK activities (Not to be restricted for reporting period).

| Name of specific  | No. of       | % of     | Change in income (Rs.)           |                 |  |
|-------------------|--------------|----------|----------------------------------|-----------------|--|
| technology/skill  | participants | adoption | Before (Rs./Unit) After (Rs./Uni |                 |  |
| transferred       |              |          |                                  |                 |  |
| Vegetable special | 457          | 82       | Rs.40000/ha                      | Rs.47000/ha     |  |
| Banana special    | 3721         | 86       | Rs.2.25 lakhs/ha                 | Rs.3.2 lakhs/ha |  |
| Bee keeping       | 1324         | 70       | Nil                              | Rs.10000 /year  |  |
| Decentralized bio | 57           | 87       | Nil                              | Rs.15400 to     |  |
| input product     |              |          |                                  | Rs.17250/month  |  |
| Mushroom          | 122          | 78       | Rs.2000/month                    | Rs.10,000 to    |  |
| cultivation       |              |          |                                  | Rs.12,000/month |  |

| Name of specific     | No. of       | % of     | Change in income (Rs.) |                           |  |
|----------------------|--------------|----------|------------------------|---------------------------|--|
| technology/skill     | participants | adoption | Before (Rs./Unit)      | After (Rs./Unit)          |  |
| transferred          |              |          |                        |                           |  |
| Processing and value | 107          | 72       | Rs.10000 -             | Rs.40000-48000/month      |  |
| addition of farm     |              |          | 15000/month            |                           |  |
| products (Millet,    |              |          |                        |                           |  |
| Fruits & Vegetables) |              |          |                        |                           |  |
| Desi bird rearing    | 92           | 95       | Rs.2000/month          | Rs.15,000 -               |  |
|                      |              |          |                        | Rs.20,000/month           |  |
| Mixed fodder         | 180          | 87       | Nil                    | Rs.1,30,000/year          |  |
| Turmeric assaying    | 650          | 47       | Rs.120000 / year /     | Rs.150000 / year / acre   |  |
| unit (Curcumin       |              |          | acre                   |                           |  |
| analysis)            |              |          |                        |                           |  |
| Vermi compost        | 25           | 16       | Nil                    | Rs.6000 to Rs.8000/month  |  |
| Value addition in    | 165          | 85       | Rs.2000 -              | Rs.8000 - Rs.10000/ month |  |
| milk                 |              |          | Rs.3500/month          |                           |  |

17. Impact of five select technologies assessed/demonstrated/popularized by the KVK in the district (in QRT format)

| S. No. | Name of specific<br>technology / skill<br>transferred | Source of<br>technology | No. of<br>Farmers | Extent<br>(ha) | Increase in<br>net return<br>Rs / ha | Economic<br>Impact /<br>benefit (Rs)<br>(5x6) | KVK Intervention<br>OFTs/FLDs/ Trainings  | Convergence /<br>Partners<br>involved in up<br>scaling of<br>technology | Remarks   |
|--------|---|-------------------------|-------------------|----------------|--------------------------------------|---|---|---|---|
| 1      | High Yielding<br>Variety in<br>Greengram (CO-8)       | TNAU                    | 260               | 125            | 12,000                               | 15,00,000                                     | CFLD – 6<br>Trainings – 14<br>Field – 6<br>Literature Published – 8                                 | Department of<br>Agriculture and<br>FPOs                                | <ul> <li>Increasing the yield by<br/>17.56 percent</li> <li>KVK promoted Farmers<br/>Group involved in seed<br/>production and supplied<br/>46 qtl Seeds to State<br/>Department of agriculture</li> <li>KVK established 4<br/>decentralized processing<br/>units consist of spiral<br/>separator, Pulses<br/>dehusker, pulveriser</li> </ul> |
| 2      | Management of<br>Fall Army Worm in<br>Maize Crop      | TNAU,<br>Coimbatore     | 3672              | 2730           | 35,250                               | 9,62,32,500                                   | OFTs-3<br>FLD s- 4<br>Trainings – 22<br>Field days- 4<br>Literature Published – 3<br>Kisan Mela – 2 | Department of<br>Agriculture,<br>TNAU and FPOs                          | <ul> <li>22.05 yield increased was noticed</li> <li>Pests infestation percentage reduced from 20.25 to 7.63</li> <li>200 input dealers were trained in the management of Fall Army worm and providing technical assistance to the farmers</li> </ul>  |

| S. No. | Name of specific<br>technology / skill<br>transferred | Source of<br>technology | No. of<br>Farmers | Extent<br>(ha) | Increase in<br>net return<br>Rs / ha | Economic<br>Impact /<br>benefit (Rs)<br>(5x6) | KVK Intervention<br>OFTs/FLDs/ Trainings   | Convergence /<br>Partners<br>involved in up<br>scaling of<br>technology | Remarks  |
|--------|---|-------------------------|-------------------|----------------|--------------------------------------|---|--|---|--|
| 3      | French Beans  | IIHR,<br>Bangalore      | 2175              | 1680           | 32,000                               | 5,37,60,000                                   | OFT – 2<br>FLD – 6<br>Training – 32<br>Field Day – 6<br>Impact Study – 1<br>Case Study - 4 | HRS, Ooty,<br>Department of<br>Horticulture and<br>FPO                  | <ul> <li>17.50 % yield increased<br/>was noticed</li> <li>30% area increased in<br/>hilly regions of Erode<br/>District</li> </ul>   |
| 4      | Turmeric  | IISR,<br>Calicut        | 674               | 1230           | 28,000                               | 3,44,40,000                                   | OFT - 2<br>FLD - 5<br>Training - 18<br>Seminar - 3<br>Field Day - 5<br>Success Stories - 2 | Department of<br>Horticulture and<br>FPO                                | <ul> <li>15.25 % yield increased<br/>was noticed</li> <li>18% area increased in<br/>Erode District</li> <li>Established 2 curcumin<br/>assaying laboratory</li> <li>Formed Farmers Producer<br/>Organization</li> <li>100 acres have been<br/>converted in to organic<br/>farming practices</li> </ul> |
| 5      | Cassava   | TNAU,<br>Coimbatore     | 110               | 250            | 52,000                               | 1,30,00,000                                   | OFT - 2<br>FLD - 4<br>Training - 12<br>Field Day - 4<br>Success Stories - 1                | Department of<br>Horticulture   | <ul> <li>18.50 % yield increased<br/>was noticed in YTP-2<br/>variety</li> <li>5% area increased in hilly<br/>regions of Erode District</li> </ul>   |

## Cases of large-scale adoption/impact of specific technologies

| Sl.No. | Activities                                    | Achievements        |
|--------|---|---------------------|
| 1      | Integrated Farm Development                   | 4182 families       |
| 2      | French Beans (Arka sharath, Arka komal)       | 1870 hectare        |
| 3      | Ragi (ML-365)                                 | 1245 hectare        |
| 4      | High yielding variety – Greengram & Blackgram | 385 hectare         |
| 5      | Sugarcane variety – CO-0212                   | 5400 hectare        |
| 6      | Turmeric (Pragathi variety)                   | 325 hectare         |
| 7      | Banana special                                | 4150 hectare        |
| 8      | Vegetable special                             | 2850 hectare        |
| 9      | VAM   | 850 hectare         |
| 10     | Fodder (CO4 & CO5)                            | 3250 farmers        |
| 11     | Mushroom spawn production                     | 15250 kg            |
| 12     | Agri-Value chain (Value added Products)       | 96 branded products |
| 13     | Organic liquid manure                         | 1850 hectare        |
| 14     | Turmeric curcumin analysis                    | 650 farmers         |
| 15     | Drone Spray                                   | 600 acres           |

## 18. Details of impact analysis of KVK activities carried out during the reporting period

#### High yielding Sugarcane Variety CO - 0212

#### Introduction

Sugarcane being mainly grown as an important commercial crop and it is the main source of sucrose in India. In Erode district, sugarcane occupies 25,000 ha area in every year. Due to the continuous cultivation of old varieties in the same field over 3 years resulted in yield reduction in sugarcane crops. Seasonal aberrations and ground water availability leads to reduction in area under sugarcane cultivation. The farmers not aware of recent varieties released by research stations and state agricultural universities, which are resistant or tolerant to various pests and diseases apart from the higher productivity. Considering the constraints faced by the farmers, ICAR KVK MYRADA conducted on farm trial on the performance assessment of sugarcane variety CO - 0212 in Erode district. The yield performance and higher economic returns of the variety leads for further dissemination in the district.

#### **KVK Intervention:**

- KVK conducted On-farm trials with High Yielding variety in Sugarcane (CO-0212) in Elumathur and Vellode region of Erode district
- Training programmes organized on various production technologies in association with ICAR Sugarcane Breeding Institute, Coimbatore and Sakthi Sugars Limited
- Method demonstrations conducted on sett treatment techniques, planting methods and IPM practices
- Organized Exposure programme to ICAR SBI, Coimbatore in order to exploring the production potential of newly released sugarcane varieties
- Established nursery units for disease free quality seedling production in Vellode

#### **Outcome and Impact:**

- The new variety CO 0212 recorded the yield of 127.50 t/ha over the existing variety recorded the yield of 108.75 t/ha
- 17.24 percent yield increase observed over the existing variety
- The nursery units supplies 2 lakhs quality sugarcane seedlings per month
- Additional net income of Rs.45,563.00 /ha realized only by replacing the variety
- 53.09% area replaced by new sugarcane variety (CO-0212)
- 6 farmers involved in production of seedling through Protray technology with the guidance of Sakthi Sugars limited and ICAR-KVK, MYRADA.




## **Horizontal Spread of the Variety**

The demonstrations conducted in the farmers' field were well appreciated by the neighboring farmers and sugar mill which could increase the area under Co 0212 in the recent time. The horizontal spreads of the variety in the district are presented in the following graph.



From the yield performance and economic impact of sugarcane variety Co 0212, the sugarcane farmers are convinced for growing the variety in large scale areas that will easily improve the sugarcane productivity in Erode district.

## 19. Linkages

## Functional linkage with different organizations

| Name of organization                                 | Nature of linkage  |  |  |  |  |
|--|--|--|--|--|--|
| National Institutes :                                |  |  |  |  |  |
| NABARD, Chennai                                      | Promotion of FPOs, Skill Training, Demonstration   |  |  |  |  |
| MANAGE, Hyderabad                                    | Capacity building programme to Input Dealers   |  |  |  |  |
| NDDB, Erode  | Skill training, Demonstration  |  |  |  |  |
| NIPHM, Hyderabad                                     | Training and demonstration   |  |  |  |  |
| NDFB, Hyderabad                                      | Training and demonstration   |  |  |  |  |
| Universities, Research and Educational Institutions: |  |  |  |  |  |
| TNAU, Coimbatore                                     | Technical support and Students Placement   |  |  |  |  |
| TANUVAS, Chennai                                     | Capacity building and Technical support  |  |  |  |  |
| ICAR – IISR, Calicut                                 | Demonstration and exposure programme   |  |  |  |  |
| ICAR – IIHR, Bangalore                               | • Technological products, seed material and farm   |  |  |  |  |
|  | machineries  |  |  |  |  |
| ICAR – SBI, Coimbatore                               | Demonstration & Exposure programme   |  |  |  |  |
| ICAR – CICR, Coimbatore                              | Demonstration & Exposure programme   |  |  |  |  |
| ICAR – CIAE, Coimbatore                              | Demonstration & Exposure programme   |  |  |  |  |
| ICAR – IISWC, Ooty                                   | • Exposure programme, Training programme   |  |  |  |  |
| ICAR - CPCRI, Kasaragod                              | Capacity building and Technical support  |  |  |  |  |
| ICAR – CIPM, Trichy                                  | Technological products   |  |  |  |  |
| ICAR – CPRS, Ooty                                    | • Exposure programme   |  |  |  |  |
| NBAIR, Bangalore                                     | Demonstration and Technological products   |  |  |  |  |
| State Department:                                    |  |  |  |  |  |
| Department of Agriculture, Erode & Other             | ATMA programme and Capacity building   |  |  |  |  |
| Districts  |  |  |  |  |  |
| Department of Horticulture, Erode                    | Capacity building  |  |  |  |  |
| Department of Agri business & Marketing,             | Skill training programme   |  |  |  |  |
| Erode  |  |  |  |  |  |
| Department of Animal Husbandry, Erode                | Camps & Campaign   |  |  |  |  |
| SAMETI, Tamil Nadu                                   | DAESI Programme  |  |  |  |  |
| TNRTP, Chennai                                       | Capacity building programme  |  |  |  |  |
| Colleges and Schools                                 |  |  |  |  |  |
| Kumaraguru Agriculture College, Appakkudal           | Students Placement and RAWE Programme  |  |  |  |  |
| JKKM Agriculture College, TN Palayam                 | • Students Placement and RAWE Programme  |  |  |  |  |
| PKR Arts College for Women                           | Training, Demonstration & Awareness Programme  |  |  |  |  |
| Gobi Arts & Science College                          | Capacity building programme and exposure   |  |  |  |  |
| Bannariamman Rural Foundation                        | Capacity building programme and exposure   |  |  |  |  |
| School Students – within the district                | Exposure, Training and Demonstrations  |  |  |  |  |
| Print & Electronic Medias:                           |  |  |  |  |  |
| All India Radio, Doordarshan and Channels,           | India Radio, Doordarshan and Channels, Announcements, Articles, Screening of KVK's Technical |  |  |  |  |
| News Papers, Monthly Magazines, Journals,            | Programmes, documentation and video coverage   |  |  |  |  |
| etc.   |  |  |  |  |  |

| 20. | List of special programmes undertaken by the KVK and operational now, which have been finance | d |
|-----|---|---|
|     | by State Govt./Other Agencies   |   |

| Name of the scheme                 | me of the scheme Date/ Month of initiation |                                    | Amount (Rs.) |
|------------------------------------|--|------------------------------------|--------------|
| ATMA Scheme - 6 days               |  | State Agriculture                  | 84,000/-     |
| Skill Training Programme for Rural | (19 - 24.09.2021)                          | Department, Erode                  |              |
| Youths (STRY)                      | 6 days District                            |                                    |              |
|                                    | (01 - 06.02.2021)                          |                                    |              |
|                                    |  |                                    |              |
| Tree Growers Mela 2021             | 1 Day                                      | Institute of Forest                | 1,00,000/-   |
|                                    | (20.09.2021)                               | Genetics and Tree                  |              |
|                                    |  | Breeding (IFGB),                   |              |
|                                    |  | Coimbatore                         |              |
| Training of SPARKs' for            | 3 Days                                     | Tamil Nadu Rural                   | 1,34,904/-   |
| Community Farm Schools to Erode    | 10 - 12.11.2021                            | 12.11.2021 Transformation Project, |              |
| District                           |  | Chennai                            |              |
|                                    | 3,18,904/-                                 |                                    |              |

## 21. AWARDS and RECOGNITIONS

KVK, KVK Staff, KVK Contact Farmers etc. at district, state, national and international level supported by copies of certificates and photographs

(Please do not include Awards and certificates issued by ATARI)

| Sl.No.                              | Name of the Award                          | Category | Name of the Awardee      |  |  |  |  |
|-------------------------------------|--|----------|--------------------------|--|--|--|--|
| KVK Staffs                          |  |          |                          |  |  |  |  |
| 1                                   | Best Senior Scientist Award                | National | Dr.P.Alagesan            |  |  |  |  |
| 2                                   | Promotion of AESC                          | District | Dr.P.Alagesan            |  |  |  |  |
| 3                                   | Best KVK Scientist Award                   | National | Mr.P.Pachiappan          |  |  |  |  |
| 4                                   | Best Women Scientist Award                 | National | Mrs.M.Siva               |  |  |  |  |
| 5                                   | Best KVK Scientist Award                   | National | Mrs.Saravanakumar        |  |  |  |  |
| 6                                   | Best KVK Scientist Award                   | National | Mr.R.D.Srinivasan        |  |  |  |  |
| 7                                   | Best KVK Scientist Award                   | National | Mr.D.John Prabakaran     |  |  |  |  |
| 8                                   | Young Scientist Award                      | National | Dr.S.Vinothraj           |  |  |  |  |
| KVK Farmer & Entrepreneurs          |  |          |                          |  |  |  |  |
| 9                                   | Best Model Integrated Farming System       | District | Mr.Nataraj               |  |  |  |  |
| 10                                  | Best Farm Innovator                        | District | Mr.Shanmugasaundaram     |  |  |  |  |
| 11                                  | Best Farm Innovator                        | District | Mr.Sudharsan             |  |  |  |  |
| 12                                  | Best Young Entrepreneur                    | District | Mr.Vivek                 |  |  |  |  |
| 13                                  | Best Women Entrepreneur                    | District | Mrs.E.Kavitha            |  |  |  |  |
| 14                                  | Best Entrepreneur                          | District | Mr.S.Prasad              |  |  |  |  |
| 15                                  | Best Producer Group Promoter               | District | Mrs.K.Vijaya             |  |  |  |  |
| 16                                  | Best Millet Crop Promoter                  | District | Mr.Basavaraj             |  |  |  |  |
| 17                                  | Agri Business Ideathon Challenge Award     | State    | Mr.VUtharakannan         |  |  |  |  |
| 18                                  | Agri Business Ideathon Challenge Award     | State    | Mr.A.K.Soundararajan     |  |  |  |  |
| 19                                  | Agri Business Ideathon Challenge Award     | State    | Mrs.E.Kavitha            |  |  |  |  |
| FPO (Farmers Producer Organisation) |  |          |                          |  |  |  |  |
| 20                                  | Appreciation Award by Erode FPCL, Sivagiri | State    | Kazhani FPCL, Kallipatti |  |  |  |  |
| 21                                  | Krishi Alert Award 2021 – Food Processing  | National | Kazhani FPCL, Kallipatti |  |  |  |  |

