Report of Joint Inspection Team to monitor the implementation of National Horticulture Mission Scheme in Karnataka State

TEAM MEMBERS:

1. Dr. H.V.L. Bathla, Chief Consultant, NHM.
2. Dr. R. Krishna Manohar, Principal Investigator (PFDC), UAS, Bangalore.
3. Director, Directorate of Arecanut and Spice Development, Calicut.
4. Director, Directorate of Cashew & Cocoa Development, Kochi.
5. Dr. H B Lingiaha, Chief Scientific Officer (Horticulture), UAS, Bangalore (Could not participate)

DATES OF VISIT: 2.05.2011 to 7.05.2011
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>S.NO</th>
<th>PARTICULARS</th>
<th>PAGE NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Karnataka State</td>
<td>3-5</td>
</tr>
<tr>
<td>2</td>
<td>District: <strong>MANDYA</strong></td>
<td>6-15</td>
</tr>
<tr>
<td>3</td>
<td>District: Mysore</td>
<td>16-28</td>
</tr>
<tr>
<td>4</td>
<td>District: Hassan</td>
<td>29-42</td>
</tr>
<tr>
<td>5</td>
<td>District: Chickmagalore</td>
<td>43-56</td>
</tr>
<tr>
<td>6</td>
<td>District: Ramanagara</td>
<td>57-68</td>
</tr>
<tr>
<td>7</td>
<td>Wrap Up Meeting</td>
<td>69-69</td>
</tr>
<tr>
<td>8</td>
<td>General Recommendations</td>
<td>70-70</td>
</tr>
</tbody>
</table>
Karnataka State

Geography

Karnataka is located in the western half of the Deccan plateau. The State extends to about 750 km from north to south and about 400 km from east to west. It has four physiographic regions. Northern Karnataka Plateau (largely includes the Deccan Trap covering districts Bidar, Belgaum, Gulbarga and Bijapur with elevation ranging between 300 to 600 meters), Central Karnataka Plateau (covers districts Chitradurga, Raichur, Chikmagalur, Dharwad, Shimoga and Bellary i.e., Tungabhadra region with an elevation between 450 to 700 meters), Southern Karnataka Plateau (includes districts Bangalore, Hassan, Kodagu, Bangalore Rural, Mandya, Mysore, Kolar and Tumkur with elevation of the region is estimated to be 600 to 900 meters) and Karnataka Coastal Region (Western Ghats, edges of the Karnataka Plateau, Uttara Kannada districts and Dakshina Kannada).

Geographical details:

- Area: 191,791 square kilometers,
- Gross Cropped area: 114,503 square kilometers,
- Net cropped area: 98,466 square kilometers,
- Irrigated area: 12,817 square kilometers,
- Area under horticulture: 19.00 lakh ha.
- Location - 74° to 78° East longitude and 11° to 18° North latitude,

- Boundaries – Arabian sea to the West, Goa and Maharashtra in the North, Tamil Nadu and Kerala in the South and Andhra Pradesh to the East,
- Population -6.10 cores and with density of 275 per km² (2011 census),
- Rate of Literacy – 75%,
- Number of Districts – 30.
Climate

Karnataka State enjoys a salubrious climate throughout the year. Weather in the state is however dynamic and changes from place to place owing to its altitude, topography and its distance from the sea. It will be influenced by four major seasons such as winter season (December to February), the summer season (March to May), monsoon season (June to September), and post-monsoon season (October to November).

The southwest monsoon accounts for almost 80% of the rainfall the state receives. The annual rainfall across the state ranges from low 50 to 250 cm. The districts of Bijapur, Raichur, Bellary and Southern half of Gulbarga experience the lowest rainfall ranging from 50 to 60 cm, while the west coast

Soil and irrigation facility

Depending on the agricultural capability of the soil, the soil types in the state are divided into six types viz., red, lateritic, black, alluvial, forest and coastal soils.

Karnataka accounts for about 6% of the country's surface water resources. Around 60% of this is provided by the west flowing rivers, while the remaining comes from the east flowing rivers. There are 7 river basins all formed by the Godavari, Cauvery, Krishna, west-flowing rivers, South Pennar, and Palar.

Potential of Horticulture in Karnataka

Horticulture sector in Karnataka at a glance

Karnataka is regarded as the “Cafeteria of Horticultural Crops” given the suitability for cultivation of various horticultural crops. The current area and
production of horticulture crops is estimated to be around 18.9 lakh hectares and 148 lakh tons, respectively, with an average productivity of about 7.8 tons per hectare. There is a big scope to promote area under crops and output mainly focusing on yield levels. Though the horticulture sector in the state has witnessed a phenomenal growth in the last five decades, there are abundant opportunities for further growth, especially in areas like productivity improvement, quality enhancement, hi-tech horticulture, protected cultivation, precision farming, etc. Horticulture sector is an important source of livelihood for as many as 12 lakh farming households in the state.

**Area and production of major horticultural crops in Karnataka**

(fig. in ‘000 ha/ tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Fruits</th>
<th>Vegetables</th>
<th>Spices</th>
<th>Plantation</th>
<th>Flowers</th>
<th>Aromatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-05</td>
<td>230.8</td>
<td>3339.9</td>
<td>234.0</td>
<td>2466.3</td>
<td>216.3</td>
<td>458.5</td>
</tr>
<tr>
<td>2005-06</td>
<td>233.4</td>
<td>3515.6</td>
<td>267.4</td>
<td>4638.0</td>
<td>196.9</td>
<td>472.4</td>
</tr>
<tr>
<td>2006-07</td>
<td>252.2</td>
<td>3786.8</td>
<td>263.9</td>
<td>4719.2</td>
<td>216.5</td>
<td>461.2</td>
</tr>
<tr>
<td>2007-08</td>
<td>256.8</td>
<td>3955.9</td>
<td>271.8</td>
<td>4955.2</td>
<td>216.8</td>
<td>453.7</td>
</tr>
<tr>
<td>2008-09</td>
<td>289.5</td>
<td>4482.0</td>
<td>257.8</td>
<td>4098.1</td>
<td>207.3</td>
<td>517.0</td>
</tr>
<tr>
<td>2009-10</td>
<td>360.2</td>
<td>5962.7</td>
<td>436.9</td>
<td>7063.0</td>
<td>266.4</td>
<td>1097.1</td>
</tr>
<tr>
<td>Average</td>
<td>306.7</td>
<td>4891.4</td>
<td>347.9</td>
<td>5619.2</td>
<td>237.95</td>
<td>784.85</td>
</tr>
</tbody>
</table>

Karnataka state has an equal distribution of key horticultural crops such as major Fruits and Vegetables (F&Vs) with the area under the crop ranging between 2.5 to 3.6 lakhs ha. The area under major spices is also significant at about 2.37 lakhs ha, followed by flowers and aromatic crops with about 0.24 and 0.13 lakh ha respectively. In terms of output, major F&Vs account about 48.25 and 56.19 lakh tons, respectively.
Mandya is one of the important agrarian district with an geographical area of 4.98 lakh hectares, out of which 2.30185 lakh ha is available for cultivation. 48% of the cultivable area is comes under irrigation. Sugarcane is the main commercial crop of the district.

32% (72251 ha) of the cultivable area is occupied by Horticultural crops. The main horticultural crops of the district are Coconut (56%), Mango (8%), Sapota(2%), Banana (6%). Vegetable crops are grown in 19% of the horticultural area. Spice crops occupy 3.25% followed by Flower crops which occupies 4% of the horticulture area.
<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Name of the crop</th>
<th>Area (ha)</th>
<th>Production (Ton)</th>
<th>Productivity (Ton/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fruit crops</td>
<td>12482</td>
<td>236844</td>
<td>18.97</td>
</tr>
<tr>
<td>2.</td>
<td>Vegetable crops</td>
<td>13522</td>
<td>249862</td>
<td>18.48</td>
</tr>
<tr>
<td>3.</td>
<td>Spice Crops</td>
<td>2354</td>
<td>12041</td>
<td>5.11</td>
</tr>
<tr>
<td>4.</td>
<td>Plantation crops</td>
<td>42511</td>
<td>4180</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>Commercial flowers</td>
<td>1355</td>
<td>13664</td>
<td>10.08</td>
</tr>
<tr>
<td>6.</td>
<td>Medicinal crops</td>
<td>8.50</td>
<td>22.60</td>
<td>2.66</td>
</tr>
<tr>
<td>7.</td>
<td>Aromatic crops</td>
<td>19</td>
<td>115</td>
<td>6.05</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>72251.50</strong></td>
<td><strong>516728.60</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Rain and Weather conditions:**

Annual rainfall of the district is 700mm which spreads over January to December. July (123mm) and October (169.5mm) months are the maximum rainfall receiving months. Weather and soil conditions of the district is very much suited for growing horticulture crops. Now a days farmers are inclining towards horticultural crops for getting more and sustainable income.

**Details of Sourcewise irrigation**

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Source Details</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Irrigation Canals</td>
<td>111046</td>
</tr>
<tr>
<td>2.</td>
<td>Tube wells</td>
<td>12165</td>
</tr>
<tr>
<td>3.</td>
<td>Tanks</td>
<td>12790</td>
</tr>
<tr>
<td>4.</td>
<td>Wells</td>
<td>12341</td>
</tr>
<tr>
<td>5.</td>
<td>Lift Irrigation</td>
<td>529</td>
</tr>
<tr>
<td>6.</td>
<td>Other Sources</td>
<td>1604</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>150475</strong></td>
</tr>
</tbody>
</table>
Details of Basic Infrastructures available in the District

<table>
<thead>
<tr>
<th>S. No</th>
<th>Details</th>
<th>Mandya</th>
<th>Maddur</th>
<th>Malavalli</th>
<th>S.R. Patna</th>
<th>P.Pura</th>
<th>Nagamangala</th>
<th>K.R.Pet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Markets</td>
<td>APMC, Farmers markets</td>
<td>APMC, Tender coconut market</td>
<td>APMC, Municipality market</td>
<td>Local market</td>
<td>Local market</td>
<td>APMC, Farmers markets</td>
<td>Local market</td>
</tr>
<tr>
<td>2.</td>
<td>Cold Storage</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>3.</td>
<td>Processing Units</td>
<td>Nil</td>
<td>Cocogel, Pickles units</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>4.</td>
<td>Godowns</td>
<td>1</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>APMC godown</td>
<td>Nil</td>
</tr>
<tr>
<td>5.</td>
<td>Training Centres</td>
<td>Govt-1 NGO-1</td>
<td>Nil</td>
<td>NGO-1</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>6.</td>
<td>Irrigation facilities</td>
<td>Canal, Tube well, Open well</td>
<td>Canal, Tube well, Open well</td>
<td>Canal, Tube well, Open well</td>
<td>Canal, Tube well, Open well</td>
<td>Canal, Tube well, Open well</td>
<td>Tube well, Hemavathi Canal</td>
<td>Nil</td>
</tr>
</tbody>
</table>

Yearwise Targets and Achievements under NHM scheme since Inception;

<table>
<thead>
<tr>
<th>S.No</th>
<th>Year</th>
<th>Physical</th>
<th>Financial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Target</td>
<td>Achievemnt</td>
</tr>
<tr>
<td>1.</td>
<td>2005-06</td>
<td>5028</td>
<td>2883</td>
</tr>
<tr>
<td>2.</td>
<td>2006-07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>2007-08</td>
<td>2514.9</td>
<td>25466.095</td>
</tr>
<tr>
<td>4.</td>
<td>2008-09</td>
<td>1640</td>
<td>1845</td>
</tr>
<tr>
<td>5.</td>
<td>2009-10</td>
<td>9728</td>
<td>7829</td>
</tr>
<tr>
<td>6.</td>
<td>2010-11</td>
<td>4544</td>
<td>4571</td>
</tr>
</tbody>
</table>

Silent Features of the components implemented under NHM in the District;

1. Vermicompost & Biodigester Units;
   For promoting organic farming in horticultural crops construction of vermicompost unit or Bio digester unit has gained importance in the farming community of the district. With the available farm wastes farmers are going for production of vermicompost. During 2009-10 215 Units have been
established throughout the district. During 2010-11 also farmers have got assistance for construction of 55 Units under NHM scheme.

2. Integrated Pest Management;
For minimizing chemical usage in horticultural crop production, Integrated Pest Management has gained lot of importance in the district. By adopting Integrated Pest Management practices like usage of Pheramone Traps for Mango fruit weevil, Red Palm Weevil, Rhinoceros Beetle has been effectively controlled. Hence inputs like Biofertilizers, Neem based chemicals are being widely used by the farmers.

3. Onion Storage Units:
As though Mandya district is predominantly a tradition area for vegetable production now a days farmers are switching on to Onion crop which is high income generating crop for the farmers. Department has given subsidy for Onion Storage structure construction during the year 2010-11 under NHM.

Beneficiary No. 1

<table>
<thead>
<tr>
<th>Project Category</th>
<th>Post Harvest Management (PHM Market/Processing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Project</td>
<td>Onion Storage Unit</td>
</tr>
<tr>
<td>Year of implementation</td>
<td>2010-11</td>
</tr>
<tr>
<td>Project period</td>
<td>2010-11</td>
</tr>
<tr>
<td>Name of Implementing Agency</td>
<td>Department of Horticulture, Mandya</td>
</tr>
<tr>
<td>Location of Project</td>
<td>Bommanahalli, Mandya Taluk</td>
</tr>
</tbody>
</table>
Total Project Cost : 1.94 Lakhs
Amount Released by DAC : 0.50 Lakhs
Expenditure incurred : 1.94 Lakhs
Status : Working in good condition
Capacity of Unit : 70 tonnes
Commodity : onion
Condition of infrastructure : structure of local model for Storing onion in good condition
Whether Board displayed : Yes
Whether funds disbursed to Agency : Yes

Beneficiary No.2

1. Name and address of Beneficiary whose field visited : Sri. Muthuraj s/o Kurikadaiah, Toppanahalli, Kasaba Hobli, Maddur Taluk Mandya District, Karnataka.
2. Total land available with the beneficiary (ha) : 1.33 Acres
3. Crop Cluster under which covered : Mango
4. Name and variety of crop planted : Badami
5. Sources of planting material : Private Nursery
6. Number of plants planted : 50
7. Date of planting : 08.07.2009
8. Number of plants which survived (also indicate percentage Survival) : The area is under first year maintenance. 4 plants which died during the planting year were replaced by new
healthy plants during the current year

9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : Second year maintenance amount Rs.1057 to be given during 2011-12

10. Amount paid and date of payment

   For New plantation  2009-10 ::  Rs. 3819
   Date of payment :  29.03.2010

   1st year maintenance-2010-11 ::  Rs.1057
   Date of Payment:  30.07.2010

11. Mode of payment  :  NEFT

12. Source of Irrigation Water  :  Area is totally Rainfed. During Summer season Irrigation is provided On hire basis through tankers from nearby water source

13. Whether Drip/Sprinkler system in use  :  Nil

14. Other inputs provided: Fresh planting  1st Year main

   Neemcake  53 Kg
   Trichoderma  2 Kg
   City compost  78 Kg

15. Whether assistance availed for Organic Farming :  No

16. If so, area covered

17. Assistance availed

18. Available marketing facility for the crop : Local market and near by District Horticultural Producers Marketting Cooperative society.

19. Other infrastructure available in the vicinity

20. General upkeep of the plot : Good

21. Any other relevant observation by the JIT.
Beneficiary No.3

1. Name and address of Beneficiary whose field visited: Sri. Ravi S/o Siddaiah, Toppanahalli, Kasaba Hobli, Maddur Taluk Mandya District, Karnataka

2. Total land available with the beneficiary (ha): 2.20 Acres

3. Crop Cluster under which covered: Mango

4. Name and variety of crop planted: Badami

5. Sources of planting material: Private Nursery

6. Number of plants planted: 100

7. Date of planting: 10.07.2009

8. Number of plants which survived (also indicate percentage Survival): The area is under first year maintenance. Hence 6 plants which died during the plating year were replaced by new healthy plants during the current year.

9. Total amount of subsidy assistance due to the beneficiary as (Rs.): Second year maintenance amount Rs. 1800 to be given during 2011-12

10. Amount paid and date of payment:

   For New plantation 2009-10: Rs. 6500
   Date of payment: 29.03.2010
   1st year maintenance-2010-11: Rs.1800
   Date of Payment: 30.07.2010

11. Mode of payment: NEFT

12. Source of Irrigation Water: Area is totally Rainfed. During Summer season Irrigation is provided On hire basis through tankers from nearby water source
13. Whether Drip/Sprinkler system in use : Nil

14. Other inputs provided:

<table>
<thead>
<tr>
<th>Input</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh planting</td>
<td>1st Year main</td>
</tr>
<tr>
<td>Neemcake</td>
<td>100 Kg</td>
</tr>
<tr>
<td>Trichoderma</td>
<td>3 Kg</td>
</tr>
<tr>
<td>City compost</td>
<td>131 Kg</td>
</tr>
</tbody>
</table>

15. Whether assistance availed for Organic Farming : No

16. If so, area covered:

17. Assistance availed:

18. Available marketing facility for the crop:

   Local market and near by District Horticultural Producers Marketing Cooperative society.

19. Other infrastructure available in the vicinity:

20. General upkeep of the plot : Good

21. Any other relevant observation by the JIT:

---

**Beneficiary No.4**

1. Name and address of Beneficiary whose field visited: Sri. Kempaiah S/o Honnaiah, Toppanahalli, Kasaba Hobli, Maddur Taluk Mandya District, Karnataka

2. Total land available with the beneficiary (ha) : 2.00 Acres

3. Crop Cluster under which covered : Mango

4. Name and variety of crop planted : Badami

5. Sources of planting material : Private Nursery

6. Number of plants planted : 40


8. Number of plants which survived(also indicate percentage Survival) : 40 lants. No plants died.
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) :
   Second year maintenance amount Rs. 675 to be given during 2011-12

10. Amount paid and date of payment:
   For New plantation 2009-10 : Rs. 2437
      Date of payment : 29.03.2010
   Ist year maintenance-2010-11 : Rs. 675
      Date of Payment: 30.07.2010

11. Mode of payment : NEFT

12. Source of Irrigation Water : Area is totally Rainfed. During Summer season Irrigation is provided by the nearby pond where Checkdam is constructed by Watershed department.

13. Whether Drip/Sprinkler system in use : Nil

14. Other inputs provided:
   
   Fresh planting  1st Year main
   Neemcake  34 Kg
   Trichoderma  1 Kg
   City compost  49 Kg

15. Whether assistance availed for Organic Farming : No

16. If so, area covered:

17. Assistance availed :

18. Available marketing facility for the crop :
   Local market and near by District Horticultural Producers Marketing Cooperative society

19. Other infrastructure available in the vicinity:

20. General upkeep of the plot : Good

21. Any other relevant observation by the JIT.
Observations:-

(i) In Thoppanahalli Village, for the AEP for Mango no water is available and farmers are bringing water from far away places by tankers on payment basis.

(ii) The procedure being followed for storage of Rose Onion is not scientific and cannot protect the produce in different climatic vagaries and also for longer time.

Recommendations:-

(i) Availability of water source on the field to be ensured while selection of farmers for AEP.
DISTRICT : MYSORE
INTRODUCTION

Mysore District is situated in Southern part of Karnataka, having an area of 6854 sq.K.m. The District is situated at latitude of 11° 7' to 12° 39' N and at longitude of 75° 54' to 77° 07' East and at an altitude of 769 mtr. MSL. Mysore District comprises of 7 taluks and 33 Hoblies. The Population of the district is 26,41,027 as per 2001 Census. 63% of the total population (16,58,899) lives in Rural areas. District Literacy is around 55%. Total Geographical area is 676382 ha. out of which 62851 ha. are under forest, with a sown area % of 555622 ha. out of which area under Horticulture is 50643 ha. 49 % of the net sown area is irrigated. 51% is rainfed. There are 371042 farming families of which 244595 are marginal and 85021 are small farmers. 89% of farmers are small & marginal. Main occupation of the district is Agriculture, Horticulture and Animal Husbandry.

There is only one Agroclimatic zone in the entire district viz. “Southern Dry zone”. The annual normal rainfall in the district is 782 mm. And the annual actual rainfall is 747 mm. With 53 normal Rainy days. Soils are Red loamy soils, Black soils, Ph of the district is generally acidic in nature. Soils are rich in potassium but deficient in Zinc and Boron.

Geography and Climate

Mysore district is located at the distance of 139 km from Bangalore. The district is situated at 769.05 from MSL. The details of agro climatic situation of Mysore district is as follows:.

<table>
<thead>
<tr>
<th>SL No</th>
<th>Agroclimatic Situation</th>
<th>Hobli</th>
<th>Taluk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Predominently rainfed areas</td>
<td>1)Kasaba, Hebbal,</td>
<td>1)K.R.Nagara</td>
</tr>
<tr>
<td>Level</td>
<td>Description</td>
<td>Area 1</td>
<td>Area 2</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>1</td>
<td>Predominantly irrigated areas</td>
<td>Saligrama, Mirle, Chunchanakatte</td>
<td>K.R. Nagra</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kasaba, Varuna, Chikkaiahnachatra</td>
<td>Mysore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bilikere, Kasaba, Hunsur</td>
<td>Hunsur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bannur, Mugur, Talakad</td>
<td>T. Narasipura</td>
</tr>
<tr>
<td>2</td>
<td>Less rainfall, shallow soils</td>
<td>Hampapura</td>
<td>H.D. Kote</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bilikere, Gowdagere</td>
<td>Hunsur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ravandur, Bettadapura</td>
<td>Periyapatna</td>
</tr>
<tr>
<td>3</td>
<td>Heavy rainfall areas with deep soil</td>
<td>Kasaba, Saraguru, Antharasanthe</td>
<td>H.D. Kote</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kasaba, Hanagodu</td>
<td>Hunsur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kasaba, Harnahalli</td>
<td>Periyapatna</td>
</tr>
</tbody>
</table>

**POTENTIAL OF HORTICULTURE**
The total geographical area is 676382 ha. Net sown area is 358904 ha. In an area of 50643 ha. Horticulture crops are grown in Mysore district. The detail of Horticulture Crops area is as follows.

<table>
<thead>
<tr>
<th>SL No</th>
<th>Crops</th>
<th>Area (in ha)</th>
<th>Production (in tones)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fruits</td>
<td>8984.00</td>
<td>148101.75</td>
</tr>
<tr>
<td>2</td>
<td>Vegetables</td>
<td>6019.00</td>
<td>116855.00</td>
</tr>
<tr>
<td>3</td>
<td>Spices</td>
<td>8088.00</td>
<td>138294.00</td>
</tr>
<tr>
<td>4</td>
<td>Plantation crops</td>
<td>26612.00</td>
<td>7320.40</td>
</tr>
<tr>
<td>5</td>
<td>Commercial flowers</td>
<td>933.00</td>
<td>5722.00</td>
</tr>
<tr>
<td>6</td>
<td>Medicinal plants</td>
<td>7.00</td>
<td>56.00</td>
</tr>
<tr>
<td>7</td>
<td>Aromatic plants</td>
<td>10.00</td>
<td>150.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50643.00</strong></td>
<td><strong>416349.34</strong></td>
<td></td>
</tr>
</tbody>
</table>

Around 14.11% of Net sown area is under different Horticulture crops.

During 2006-07 the area under Horticulture crops was 33228 ha. The present area under Horticulture Crops has been increased to 50643 ha. This shows that an area of 17415 ha. (35%) has been increased during last 4 years. In NHM area expansion programs subsidy has been extended to 7806 ha. Rs.884 laks.

Componentwise progress achieved under NHM

During 2010-2011

Physical in Ha. / No.
Financial in Rs. In lakh
<table>
<thead>
<tr>
<th>Components</th>
<th>Physical Achievement</th>
<th>Financial Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Nursery (Public Sector)</td>
<td>1</td>
<td>6.25</td>
</tr>
<tr>
<td>Seed Production (Private Sector)</td>
<td>2</td>
<td>0.50</td>
</tr>
<tr>
<td>Area Expansion of Fruits</td>
<td>341.2</td>
<td>63.44</td>
</tr>
<tr>
<td>Area Expansion of Flowers</td>
<td>101.78</td>
<td>14.37</td>
</tr>
<tr>
<td>Area expansion of spice crops</td>
<td>300</td>
<td>37.50</td>
</tr>
<tr>
<td>Adoption of Organic farming</td>
<td>300</td>
<td>9.00</td>
</tr>
<tr>
<td>Organic Farming Certification</td>
<td>6</td>
<td>9.00</td>
</tr>
<tr>
<td>Vermicompost / Bio -digester</td>
<td>86</td>
<td>20.77</td>
</tr>
<tr>
<td>Protected cultivation</td>
<td>9</td>
<td>20.89</td>
</tr>
<tr>
<td>INM</td>
<td>1020</td>
<td>10.20</td>
</tr>
<tr>
<td>IPM</td>
<td>600</td>
<td>6.00</td>
</tr>
<tr>
<td>Pollination suport through Bee Keeping</td>
<td>436</td>
<td>3.27</td>
</tr>
<tr>
<td>Farm Pond</td>
<td>5</td>
<td>2.40</td>
</tr>
<tr>
<td>Horticulture Mechanization (Tractors)</td>
<td>24</td>
<td>18.00</td>
</tr>
<tr>
<td>Publicity &amp; propaganda(Krush) mela &amp; Dassera Flower show</td>
<td>1</td>
<td>4.00</td>
</tr>
<tr>
<td>HRD (Training or exposure visit)</td>
<td>493</td>
<td>2.05</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3725.98</strong></td>
<td><strong>227.639</strong></td>
</tr>
</tbody>
</table>

**Beneficiary No.-1**

**WATER RESOURCES**

Name of Project: Farm Pond

Year of Implementation: 2010-11

Project Period: ---

Name of Implementing Agency: DDH, MYSORE

Location of Project: ArakereKoppal, K.R.Nagar

Taluk, Mysore district

Total Project cost: Rs 1.20 lakhs

Amount Released by DEPT.: Rs.0.60 lakh

Expenditure incurred: Rs. 1.20 lakhs

Current status of project
<table>
<thead>
<tr>
<th>Capacity</th>
<th>1200 m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Area</td>
<td>Rain water &amp; borewell irrigation facility</td>
</tr>
<tr>
<td>Whether linked with new plantation or old plantations</td>
<td>Old</td>
</tr>
<tr>
<td>Whether Funds disbursed</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Beneficiary No.-2**

(1) Nursery Vegetable seed production / Seed Infrastructure

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Tubular Structure Poly house</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of Implementation</td>
<td>2010-11</td>
</tr>
<tr>
<td>Project Period</td>
<td>---</td>
</tr>
<tr>
<td>Name of Implementing Agency</td>
<td>DDH, MYSORE</td>
</tr>
<tr>
<td>Location of Project</td>
<td>Shettynayakanahalli, Yelawala, Mysore</td>
</tr>
<tr>
<td>Total Project cost</td>
<td>Rs. 9.55 lakhs</td>
</tr>
<tr>
<td>Amount Released by DAC</td>
<td>Rs. 4.675 lakhs</td>
</tr>
<tr>
<td>Expenditure incurred</td>
<td>Rs. 9.55 lakhs</td>
</tr>
</tbody>
</table>

**Beneficiary No.-3**

<table>
<thead>
<tr>
<th>Name of Nursery and crops for</th>
<th>Tubular structure poly house, Hybrid which plants are produced Vegetable seedlings production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of crops for which seeds</td>
<td>Tomato, Chilly, Brinjal, Cauliflower, produced Cabbage, Watermelon, seedlings</td>
</tr>
<tr>
<td>Quantity produced</td>
<td>18 lakhs No. of plants</td>
</tr>
<tr>
<td>Quantity sold</td>
<td>18 lakhs</td>
</tr>
<tr>
<td>Rate</td>
<td>Rs. 0.35/plant</td>
</tr>
<tr>
<td>Amount realizes through sale</td>
<td>Rs. 6.30 lakhs</td>
</tr>
<tr>
<td>Whether HMNEH Board displayed</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Beneficiary No.-4**

(1) Nursery Vegetable seed production / Seed Infrastructure
**Beneficiary No.-5**

Name of Nursery and crops for: Wooden structure Shadnet

Name of crops for which seeds: Tomato, Chilly, Brinjal, Cauliflower, produced Cabbage, Watermelon, seedlings

Quantity produced: 5 lakhs

Quantity sold: 5 lakhs

Rate: Rs. 0.35/plant

Amount realizes through sale: Rs. 1.75 lakhs

Whether HMNEH Board displayed: Yes

---

**Beneficiary No. -6**

**Model Nursery**

Name of Project: Establishing composite Model Nursery under NHM

Year of Implementation: 2009-10

Project Period: 3 years
Name of Implementing Agency : University of Agricultural sciences, B.lore
Location of Project : Organic farming agricultural research station, Naganahalli, Mysore-3
Total Project cost : Rs. 18.00 lakhs
Amount Released by DEPT. : Rs. 18.00 lakhs
Expenditure incurred : Rs. 12.20 lakhs
Status of project : Continued for 3 years
Name of Nursery and crops for which plants are produced : Composite Model Nursery

The following grafts are produced and yet to be sold
Mango : 35 No.
Sapota : 60 No.
Fig : 39 No.
Seedless lime : 60 No. seedlings

The following vegetable seedlings are raised and sold to be farmers
Tomato seedlings : 42400 No.s @ Rs. 0.20/seedling
Pole beans : 8000 No.s @ Rs. 0.15/seedling
Marigold : 300 No.s @ Rs. 0.30/seedling
Chilli : 4400 No.s @ Rs. 0.25/seedling

Amount realizes through sale - Rs. 10790-00
Whether HMNEH Board displayed : Yes

Beneficiary No.-7
Name of Project : Vegetable wholesale Market
Year of Implementation : 2007-08
Project Period : –
Name of Implementing Agency : A.P.M.C, Mysore
<table>
<thead>
<tr>
<th>Location of Project</th>
<th>APMC, Bandipalya, Mysore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project cost</td>
<td>Rs. 1020.00 lakhs</td>
</tr>
<tr>
<td>Amount Released by DEPT.</td>
<td>Rs 255.00 lakhs</td>
</tr>
<tr>
<td>Expenditure incurred</td>
<td>Rs. 1020.00 lakhs</td>
</tr>
</tbody>
</table>

**Status of project**

<table>
<thead>
<tr>
<th>Size of market in terms of area</th>
<th>43 acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities created</td>
<td>7 auction platform, 144 stalls, information center, farmers rest house, water supply, roads, streetlights</td>
</tr>
<tr>
<td>Commodities sold</td>
<td>Vegetables &amp; Fruits</td>
</tr>
<tr>
<td>Approachability</td>
<td>well connected to NH 219 &amp; Mysore airport</td>
</tr>
<tr>
<td>Condition of market</td>
<td>Good</td>
</tr>
<tr>
<td>Whether funds disbursed to Agency</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Beneficiary No. -8**

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Hi-tech flower market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of Implementation</td>
<td>2009-10</td>
</tr>
<tr>
<td>Project Period</td>
<td>-</td>
</tr>
<tr>
<td>Name of Implementing Agency</td>
<td>A.P.M.C, Mysore</td>
</tr>
<tr>
<td>Location of Project</td>
<td>APMC, Bandipalya, Mysore</td>
</tr>
<tr>
<td>Total Project cost</td>
<td>Rs. 340 lakhs</td>
</tr>
<tr>
<td>Amount Released by DEPT.</td>
<td>Rs 85.00 lakhs</td>
</tr>
<tr>
<td>Expenditure incurred</td>
<td>Rs. 340 lakhs</td>
</tr>
</tbody>
</table>

**Status of project**

<table>
<thead>
<tr>
<th>Size of market in terms of area</th>
<th>1444 m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilities created</td>
<td>Construction work is under progress (cold storage cum air conditioned auction hall, rate display system)</td>
</tr>
<tr>
<td>Commodities sold</td>
<td>Flowers (tuberose, chrysanthemum, rose, jasmine, etc.)</td>
</tr>
</tbody>
</table>
Approachability: well connected to NH 219 & Mysore airport

Condition of market

Whether funds disbursed to Agency: Yes

**Beneficiary No. -9**

Name of Project: Vermi Compost Unit

Year of Implementation: 2010-11

Project Period: ------

Name of Implementing Agency: DDH, Mysore

Location of Project: Devagally, Jaipura, Mysore (Tq)

Total Project cost: Rs. 0.30 lakh

Amount Released by DEPT.: Rs. 0.15 lakh

Expenditure incurred: Rs. 0.30 lakh

Status

Crops covered: Papaya, Coconut, Mango, Vegetable flower, crops

No. of farmers involved: 1

Whether funds disbursed: Yes

**Beneficiary No.-10**

Name of Project: Bee Keeping (colony + Hives)

Year of Implementation: 2010-11

Project Period: ------

Name of Implementing Agency: DDH, Mysore

Location of Project: Devagally, Jaipura, Mysore (Tq)

Total Project cost: Rs. 0.75 lakh
Amount Released by DEPT.: Rs. 0.375 lakh
Expenditure incurred: Rs. 0.75 lakh

Status
Crops covered: Papaya, Coconut, Mango, Vegetable & flower
No. of farmers involved: 1
Whether funds disbursed: Yes

Beneficiary No. 11
Name of Project: Tractor subsidy
Year of Implementation: 2010-11
Project Period: -----
Name of Implementing Agency: DDH, Mysore
Location of Project: Baradanapura, Mysore (Tq)
Total Project cost: Rs. 4.77 lakh
Amount Released by DEPT.: Rs. 0.75 lakh
Expenditure incurred: Rs. 4.77 lakh

Status
Crops covered: Mango, Sapota, Coconut
Land details: 14.05 acres
Aim of the project: Land ploughing & transportation
Date of registration: 06-04-2010
Registration No.: K.A.09 T6125
Whether funds disbursed: Yes
Whether board displayed: Yes

Beneficiary No.12
Name of Project: Tractor subsidy
Year of Implementation: 2010-11
Project Period: -----

Date of registration: 06-04-2010
Name of Implementing Agency : DDH, Mysore
Location of Project : Sambravalli, K.R.Nagar (Tq)
Total Project cost : Rs. 5.32 lakh
Amount Released by DEPT. : Rs. 0.75 lakh
Expenditure incurred : Rs. 5.32 lakh

Status
- Crops covered : Arecanut, Coconut, Banana, Papaya
- Land details : 10.25 acres
- Aim of the project : land ploughing & transportation
- Date of registration : 13-10-2010
- Registration No. : K.A.45 T5324
- Whether funds disbursed : Yes
- Whether board displayed : Yes

Observations:-

(i) In the APMC market supported under NHM there is a facility for open auction platform where farmers can directly auction their Horticulture produce.

(ii) There is growing interest among farmers for bee keeping since it helps enhancing the pollination resulting in increased yield in horticulture crops like Coconut, Guava, Papaya, Mango & also vegetable crops. In view of this, there is a need for imparting training on bee keeping.

(iii) In view of shortage of labour for horticulture operations the horticulture mechanization support under NHM is very useful.

(iv) The poly-house nursery for vegetable seedlings supported under NHM private sector is producing seedlings for the farmers on demand basis and there is lot of demand for this.

(v) The performance of the plant health clinic sanctioned to the Organic Farming Research Station, Mysore under UAS Bangalore is not satisfactory.
(vi) Composite Model Nursery supported under NHM to Organic Farming Research Station, Mysore under UAS Bangalore has developed infrastructure for production of planting material. However, the large scale production has yet to commence.

(vii) The Department Of Horticulture Nursery for the fruit crops was producing quality planting material.

**Recommendations:-**

(i) The Plant Health Clinic requires display of major disease / pest symptoms with suitable control measures. Records of the farmers visiting Plant Health Clinic as well as results of analysis and feedback from the farmers need to be maintained.

(ii) Production of planting material as per the targets fixed to be commenced without further delay.

(iii) There is a need to have close coordination of the Center with the Department Of Horticulture (DOH). The DOH may monitor the activities in this regard from time to time.
Background Information

The area of Hassan district is about 6.814 sq kms, located in the southwestern part of Karnataka ruled by Hoysalas. The earlier name of Hassan was Simhasanapura. Hassan is popularly known as “Poor man’s Ooty”. Hassan is a picturesque town in the heart of Malnad, with a pleasant climate. Hassan district comprises of 8 talukas (Alur, Arkulgud, Arsikere, Belur, Channarayapatana, Hassan, Holenarsipura and Sakleshpura) surrounded by Chikmaglur, Tumkur,
Kodagu, Mysore, Mandya, Dakshina Kannada districts. This quiet and peaceful town is a convenient base to visit ruins sculptures and monuments at the ancient cities of Sharvanabelogala, Belur and Halebeedu.

Hassan is well connected by road and rail to all cities of State. In near future Hassan is expecting Airport too. Hassan is also houses the Master Control Facility (MCF) of India’s space programme. Important rivers of districts are Cauvery, Hemavathi and Yagachi. According to 2001 census, the population of the district is 1,721,669, out of which 859,086 are males (49.90%) and 862,583 are female (50.01%). The literacy percentage of the district is 60.67% out of which 69 percent are males and 52.31 percent are females.

During 2010-11 the total horticultural area of the district is 1.49 lakhs hectares (excluding Coffee area). Which comprises 37% of the total cultivable area of the district. Among the fruit corps, Mango- 2678 hectares, Sapota-920 hectares, Banana-3630 hectares, Citrus- 635 hectares, Guava-347 hectares. In vegetable crops, Potato-18265 hectares, Tomato-1366 hectares, Brinjal-766 hectares, Onion-90 hectares, Cole Crops-1206 hectares, Gourds-1152 hectares. In Spices crops Pepper-3049 hectares, Cardamom-7700 hectares, Ginger-34005 hectares. Among Plantation crops, Coconut-62256 hectares, Arecanut-4110 hectares, Flower crops 983 hectares.
Zone No. | Agro-climatic Zone
---|---
4 | Central Dry Zone
6 | Southern Dry Zone
7 | Southern Transition Zone
9 | Hilly Zone
Establishment of New Gardens:

Hassan district is well suited for the cultivation of potential fruit crop like Mango, Sapota, Banana. There is lot of demand from the farmers of Channarayapatna, Arasikere, Belur, Hassan and Arakalagud talukas. Identified the cluster to improve the productivity and quality of there potential crops with assistance under National Horticulture Mission. Quality planting material to be produced and made available to the farmers in departmental farms, private & public nurseries. For 2011-2012 the area proposed under different horticulture crops are as follows Mango-130 ha, Sapota-125 ha, Banana (Suckers) – 70 ha, Banana (Tissue culture)-190 ha, Loose flowers – 50 ha respectively.

Protected Cultivation:

In order to utilize the land judiciously & to get maximum return from unit land & to produce more number of quality planting materials, in 2011-2012 annual action plan proposed Rs.67.48lakhs for the construction of different types of Shade Net & Green House structures maximum structures were proposed in Belur, Arsikere, Sakaleshpura, Channarayapatana & Holenarasipura taluk of Hassan District

Creation of water resources:

With a view to create water resources structure in 2011-2012 Annual action plan proposed Rs.32.20lakhs. Proposed in Alur, Belur, Chennarayapatna and Hassan taluks.
Promotion of INM/IPM

In our district 18% of the funds in the action plan is allocated for integrated pest management and integrated nutrient management with a view to ameliorate soil health, increase the fertility and nutrient status of the soil, which provides the micro-nutrients deficient in the soil. Following micro-nutrient deficiencies are found in the Hassan District as follows. 70%-79% of zinc deficiency recorded in the Malnad regions like Alur, Sakaleshpur, Belur and part of Hassan talukas, and hence distribution of ZnSO₄ to the farmers of there talukas under National Horticulture Mission is needful. Major Horticulture crops grown in these areas are Ginger, Pepper, Banana, Potato, Mango, Sapota and Areca.

The soils of Arasikere, Channarayapatna, Holenarasipur talukas 30%-35% deficiency in Boron the major horticulture crops like Coconut, Areca, Banana, Mango, Sapota and vegetable crops are grown.

Soils of Hassan are of 3 types, red laterite, black cotton soils. Most of Hassan is covered by red to brown sandy loams. In which crops are extensively cultivated by applying organic and inorganic fertilizers. These soils are neutral to slightly acidic with PH 5.9. Hence application of lime is also taken up under INM. To increase the fertility status of soil distribution of green manure seeds, organic manures Bio-fertilizers, Micro-nutrients especially in the talukas like Arasikere, Channarayapatna, Arakalagud and Holenarasipur.
**Adoption of Organic farming:**

In Hassan district most of the farmers are coming forward for adopting organic farming and Bio-digester units. Hence 8% of the total funds outlaid for organic forming Vermi-compost/Bio-digester units.

Adoption of organic farming improves the productivity and also helps in management of pest and diseases.

**Pollination support through bee-keeping:**

Alur, Sakaleshpur and Belur talukas of Hassan district fall under Malnad regions where horticulture crops like Areca, Pepper, Banana and Cardamom is grown extensively. Assistance under NHM for pollination support through bee keeping helped farmers of this region where 60% pollination in cardamom is enhanced through honey bees which is interns has increased yield and also benefited by farmers. A Beekeepers society is also established in Sakaleshpur taluk where bee colonies and boxes were sold. In 2011-2012 Annual action plan 300 units each in Bee colonies and Bee hives were proposed.

**Beneficiary No.1**

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Community Farm Pond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year of Implementation</td>
<td>2010-11</td>
</tr>
<tr>
<td>Project Period</td>
<td>5 years</td>
</tr>
<tr>
<td>Name of the Implementing Agency</td>
<td>Rangaswamy</td>
</tr>
<tr>
<td>Location of Project</td>
<td>Byadarahalli, Kattaya, Hassan Taluk,</td>
</tr>
</tbody>
</table>
Hassan District

Total Project Cost : 3.75 Lakhs
Amount Released by DAC : 1.56 Lakhs
Expenditure Incurred : 1.56 Lakhs

Current Status of Project
- Capacity : 2352 Cubic Meters
- Command Area : 1 Ha
- Whether linked with new plantation of old plantations: New Plantation (Mango, Sapota, Banana & Vegetable crops)

- Whether Funds disbursed : No
- Rate :
- Amount Realizes through sale :
- Whether HMNEH Board Displayed :

**Beneficiary No. 2**

(1) Nursery/Vegetable Seed Production/Seed Infrastructure
Name of Project : Model Nursery (Medicinal Plants)
Year of Implementation : 2007-08
Project Period : 3 Years
Name of the Implementing Agency : Agriculture College, Karekere
Location of Project : Agriculture College, Karekere, Hassan
Total Project Cost : 18.00 Lakhs
Amount Released by DAC : 18.00 Lakhs
Expenditure Incurred : 18.00 Lakhs

**Beneficiary No. 3**

- Name of Nursery and crops for which plants are produced : Establishment of Herbal Garden & Model
- Name of crops for which seeds produced : Medicinal Plants
- Quantity Produced : 1.00 Lakh
- Quantity Sold : -
- Condition of Market : -
- Whether Funds Disbursed to Agency : 

**Beneficiary No. -4**

Name of Project : Green House (Tubular Structure)
Year of Implementation : 2010-11
Project Period : 5 Years
Name of the Implementing Agency : Shivkumar, Angadihalli
Location of Project : Angadihalli, Hagare, Belur Taluk
Total Project Cost : 4.50 Lakhs
Amount Released by DAC : 1.83 Lakhs
Expenditure Incurred : 4.00 Lakhs

**Beneficiary No. - 5**

- Name of Nursery and crops for which plants are produced : Vegetable Nursery (Chilli, Tomato, Brinjal, Cabbage)
- Name of crops for which seeds produced : Production of Chilli, Tomato, Brinjal, Cabbage seedlings
- Quantity Produced : 9.00 Lakh
- Quantity Sold : 9.00 Lakh
- Condition of Market : Good
- Whether Funds Disbursed to Agency : 

36
Beneficiary No. - 6

1. Name and Address of Beneficiary whose field visited: Doreswamy, Doddachakanahalli, Kattaya.

2. Total Land Available with the Beneficiary (ha): 2.80 ha

3. Crop Cluster under which covered: 0.80 ha

4. Name and Variety of crop Planted: Banana, (Tissue Culture) G-9

5. Sources of Planting Material: Hesaragatta, Bangalore

6. Number of Plants Planted/Rejuvenated: 2500

7. Date of Planting/Rejuvenation: December

8. Number of Plants which survived: 2500 (100%)
   (also indicate percentage survival)

9. Total Amount of subsidy assistance due to the beneficiary as (Rs.): 24,960/-

10. Amount Paid and Date of Payment: 24,960/-

11. Mode of Payment: Amount Credited to Beneficiary Bank A/c

12. Source of Irrigation Water (Bore well/Tube well/Canal): Bore Well

13. Whether Drip/Sprinkler System in use: No

14. Other inputs provided: No

15. Whether assistance availed for Organic Farming: No

16. If so, area covered: No

17. Assistance availed: No

18. Available marketing facility for the crop: Local Market

19. Other infrastructure available in the vicinity: No

20. General upkeep of the plot: Very good/Good/Average/Poor: Good
Beneficiary No. - 7

1. Name and Address of Beneficiary whose field visited : Rangaswamy, Bayadarahalli, Kattaya.

2. Total Land Available with the Beneficiary (ha) : 1.00 ha

3. Crop Cluster under which covered : 0.80 ha

4. Name and Variety of crop Planted (also indicate percentage survival) : Mango (Badami), Sapota (Cricket Ball)

5. Sources of Planting Material : Departmental Nursery

6. Number of Plants Planted/Rejuvenated : 80

7. Date of Planting/Rejuvenation : August

8. Number of Plants which survived : 80 (100%)

9. Total Amount of subsidy assistance due to the beneficiary as (Rs.) : 12355/-

10. Amount Paid and Date of Payment : 12355/-

11. Mode of Payment : Amount Credited to Beneficiary Bank A/c

12. Source of Irrigation Water (Bore well/Tube well/Canal) : Bore Well

13. Whether Drip/Sprinkler System in use : No

14. Other inputs provided : No

15. Whether assistance availed for Organic Farming : No

16. If so, area covered : No

17. Assistance availed : No

18. Available marketing facility for the crop : Local Market

19. Other infrastructure available in the vicinity : No

20. General upkeep of the plot : Very good/Good/Average/Poor : Good

21. Any Other relevant observation by the JIT : No
Beneficiary No. - 8

Name of Project : Plant Health Clinic
Year of Implementation : 2007-08
Project Period : 5 Years
Name of the Implementing Agency : Agriculture College, Karekere
Location of Project : Agriculture College, Karekere, Hassan
Total Project Cost : 20.00 Lakhs
Amount Released by DAC : 13.29 Lakhs
Expenditure Incurred : 13.29 Lakhs
List of equipments procures : Laminar air flow, Autoclave, Electronic Balance, BOD Incubator, Stereo Zoom Binocular, Micro Pipette
Whether trained manpower deployed : Yes
Arrangements made to meet recurring cost : Yes
Current status : Good

Beneficiary No. - 9

Name of Project : Disease Forecasting Unit
Year of Implementation : 2007-08
Project Period : 5 Years
Name of the Implementing Agency : Agriculture College, Karekere
Location of Project : Agriculture College, Karekere, Hassan
Total Project Cost : 4.00 Lakhs
Amount Released by DAC : 2.53 Lakhs
Expenditure Incurred : 2.53 Lakhs
List of equipments procures: Laminar air flow, Autoclave, Electronic Balance, BOD Incubator, Stereo Zoom Binocular, Micro Pipette

Whether trained manpower deployed: Yes
Arrangements made to meet recurring cost: Yes
Current status: Good

Beneficiary No. - 10
Name of Project: Leaf Tissue Analysis Lab (Public Sector)
Year of Implementation: 2010-11
Project Period: 5 Years
Name of the Implementing Agency: Agriculture College, Karekere
Location of Project: Agriculture College, Karekere, Hassan
Total Project Cost: 20.00 Lakhs
Amount Released by DAC: 20.00 Lakhs
Expenditure Incurred: 20.00 Lakhs

List of equipments procures: Macro KJeldahl unit, BOD incubator, Flame photometer, Shaker, Microwave oven, pH meter, Centrifuge, Water distillation units with auto cut-off (single), Analytical balance, UV-Vis. Spectrophotometer, Computer for the above equipment, Digital camera

Whether trained manpower deployed: Yes
Arrangements made to meet recurring cost: Yes
Current status: Good

Beneficiary No. - 11
Name of Project: Leaf Tissue Analysis Lab (Private Sector)
Year of Implementation : 2010-11
Project Period : 5 Years
Name of the Implementing Agency : Hassan District Planters Association, Sakaleshpura
Location of Project : Hassan District Planters Association, Sakaleshpura
Total Project Cost : 26.10 Lakhs
Amount Released by DAC : 10.00 Lakhs
Expenditure Incurred : 26.10 Lakhs

List of equipments procures : Atomic Absorption Spectrophotometer meter, Digital Spectrophotometer, Digital Flame photometer, Digital Conductivity meter with cell, Digital pH meter with electrode, electronic balance All glass double distillation unit with electronic relay unit, Laboratory shaking machine, Electronic automatic kelplus macro block digestion system, Electronic Kelpus micro processor based distillation system

Whether trained manpower deployed : Yes
Arrangements made to meet recurring cost : Yes
Current status : Good

**Observations:-**

(i) SHM has sanctioned one Plant Health Clinic, one disease forecasting unit, one leaf / tissue analysis lab and the model nursery for medicinal/ aromatic plants to Agriculture College, Hassan.

(ii) The Plant Health Clinic has been serving the farmers of the region to diagnose various diseases and pests affecting horticulture crops and also suggesting remedial measures to
control the same. The college also conducting regular training programmes for farmers for managing pests and diseases of horticulture crops in the region.

(iii) The model nursery for medicinal plants established under NHM has not produced any planting material and maintenance of the nursery is very poor.

(iv) AEP for TC banana in village; Doddachakonally needs to be supported with drip irrigation under NMMI.

(v) A leaf tissue analysis lab established to the Planters Association and Sakleshpur has been serving satisfactory with regard to analysis of micro nutrients, Ph values and soil analysis etc.

Recommendations:-

(i) The activities sanctioned to the Agriculture College, Hassan need to be reviewed by the DOH and measures to be taken to utilize infrastructure developed for disease forecast unit leaf tissue analysis lab. It is suggested that the college in coordination with DOH should work out the demand for planting material of medicinal plants and start producing the material accordingly.
DISTRICT : CHICKMAGALORE

INTRODUCTION:

Chikmagalure stands at the forefront in its richness in natural resources and varied agro-climatic conditions. The total geographical area of this district is 7201 sq. km (722075 ha.). The total cultivable area of Chikmagalure district is 331401 hectares. Out of this horticulture crops are grown in an area of 113258.40 hectares with production of 566162.22 tons valued at 135662 lakh rupees.

A large area is covered by malnad taluks and hence it is popular as malnad district. Out of 7 taluks, Tarikere, Kadur and parts of Chikmagalure taluk are maidan areas and Koppa, Sringeri, Narasimharajapura, Mudigere and parts of Chikmagalure taluk are malnad areas.

AgroClimatic conditions:

On an average, Chikmagalure recieves rainfall of 1886.4 mm. Malnad taluks like Sringeri, Koppa, Narasimharajapura and Mudigere recieve heavy rainfall, where as
maidan taluks like Tarikere, Kadur and parts of Chikmagalure receive low rainfall. Relative humidity is higher during September month (80%) and lower during February month. Temperature goes up to 35\(^\circ\)C during summer months and during winter months it goes down upto 8\(^\circ\)C to 10\(^\circ\)C. District is Classified into 3 zones, Hilly zone-9, southern Transitional zone-7, Central Dry zone-4.

![Agroclimatic Zones of Chikmagalur District]

Classification into different zones based on climatic conditions:

<table>
<thead>
<tr>
<th>Zone</th>
<th>Taluks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hilly zone-9</td>
<td>Koppa, Sringeri, Mudigere, Narasimharajapura</td>
</tr>
<tr>
<td>Southern transitional zone-7</td>
<td>Tarikere and Chikmagalore</td>
</tr>
<tr>
<td>Central dry zone-4</td>
<td>Kadur</td>
</tr>
</tbody>
</table>

a) Rainfall:
Chikmagalure district receives very good rainfall and the spread is between June to September months. Average rainfall of the district is 1886.4 mm. Taluk wise rainfall data is given below:

<table>
<thead>
<tr>
<th>Sl NO.</th>
<th>Taluk</th>
<th>Average rain fall mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kadur</td>
<td>634.3</td>
</tr>
<tr>
<td>2</td>
<td>Chikmagalore</td>
<td>871.8</td>
</tr>
<tr>
<td>3</td>
<td>Tarikere</td>
<td>921.8</td>
</tr>
<tr>
<td>4</td>
<td>N R pura</td>
<td>1355.7</td>
</tr>
<tr>
<td>5</td>
<td>Mudigere</td>
<td>2585.8</td>
</tr>
<tr>
<td>6</td>
<td>Koppa</td>
<td>2616.1</td>
</tr>
<tr>
<td>7</td>
<td>Sringeri</td>
<td>3799.1</td>
</tr>
<tr>
<td></td>
<td><strong>District Average</strong></td>
<td><strong>1886.4</strong></td>
</tr>
</tbody>
</table>

b) Soil:

Chikmagalure is having lateritic, red, Sandy loam, clay soil rich in Iron and Aluminium. pH of the soil ranges from 5-5 to 7-00. The soil are suitable for growing varied horticulture crops.

c) Water sources:

Six major rivers of Karnataka namely Tunga, Bhadra, Hemanvathi, Vedavathi, Yagachi and Nethravathi take birth in Chikmagalure district. Major part of the water required for cultivation of many horticulture and agriculture crops is met from these rivers. Some natural sources like ponds, tanks, lakes, wells also fulfill the water requirement.

d) Irrigation:

The net irrigated area of Chikmagalure is 37,418 ha. Canals provide water to an area of 9,444 ha, tanks 9,241 ha, wells 358 ha, borewells 8,505 ha, lift irrigation 142 ha and other sources provide water to an area of 9,276 ha, respectively.
### Source Area (in ha)

<table>
<thead>
<tr>
<th>Source</th>
<th>Area (in ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canals</td>
<td>9444</td>
</tr>
<tr>
<td>Wells</td>
<td>358</td>
</tr>
<tr>
<td>Tanks</td>
<td>9241</td>
</tr>
<tr>
<td>Lift irrigation</td>
<td>142</td>
</tr>
<tr>
<td>Borewells</td>
<td>8505</td>
</tr>
<tr>
<td>Other sources</td>
<td>9726</td>
</tr>
<tr>
<td>Net irrigated area</td>
<td>3741</td>
</tr>
</tbody>
</table>

### e). Land holdings:

<table>
<thead>
<tr>
<th>Size of the holdings</th>
<th>No.</th>
<th>Area (in ha.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Marginal farmers (below 1 ha.)</td>
<td>106163</td>
<td>51736</td>
</tr>
<tr>
<td>b) Small farmers (1 to 2 ha.)</td>
<td>50697</td>
<td>71518</td>
</tr>
<tr>
<td>c) Semi medium farmers (2 to 4 ha.)</td>
<td>26154</td>
<td>70051</td>
</tr>
<tr>
<td>d) Medium farmers (4 to 10 ha.)</td>
<td>10453</td>
<td>60293</td>
</tr>
<tr>
<td>e) Large scale farmers (More than 10 ha.)</td>
<td>2168</td>
<td>50371</td>
</tr>
</tbody>
</table>

Total area under horticulture crops: **113258.40 ha.**

### Infrastructure Present in the district

1. **Markets:**
   
   APMC at Chikmagalore, Kadur, Koppa, Sringeri, Tarikere

2. **Cold Storages:**
MCF cold storage unit of 10 tons capacity is present in the district.

3) Godowns:

APMC godowns and Karnataka marketing federation godowns are present in the district and are used for storing fertilizers and food grains.

4) Processing Units;

Noted processing units are present in the district, but small scale pickling units, banana chips making units are located in Koppa, N. R. pura and Sringeri taluks.

5) Training Centres:

There are four training centers in the district offering training in horticulture and allied activities.

A) Agriculture training center at Lingadahalli

B) Horticulture training center at Mudigere.

C) KVK-Mudigere

D) COBSET training center Chikmagalure

6) Labour availability:

There is a acute scarcity of labours in malnad areas (For coffee, cardamom, pepper plantations etc.). But relatively less in maidan areas like Kadur and Tarkere.

7) Communication and connectivity:

There is good network of roads connecting other parts of the state. Train facility is restricted only to Kadur and tarkere taluks of the district.

Horticulture crops grown in Chikmagalure district

<table>
<thead>
<tr>
<th>Chikmagalure</th>
<th>Coconut, Arecanut, Banana, Potato and other vegetables, Ornamental plants and Spice crops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kadur</td>
<td>Coconut, Arecanut, Banana, Ginger, Onion and</td>
</tr>
<tr>
<td>Area</td>
<td>Crops</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tarikele</td>
<td>Coconut, Arecanut, Cocoa, Oil palm, Mango, Banana, Ginger, Betel leaf and vegetables, Rose</td>
</tr>
<tr>
<td>Mudigere</td>
<td>Cardamom, Pepper, Banana, Ginger, Arecanut, Cocoa, Mandrins, Betel leaf and spice crops, Anthuriums</td>
</tr>
<tr>
<td>Koppa</td>
<td>Arecanut, Pepper, Banana, Cocoa, Betel leaf and spice crops, Anthurium.</td>
</tr>
<tr>
<td>Narasimharajapura</td>
<td>Banana, Cardamom, Pepper, Ginger, Cocoa, and other spice crops. Oil palm.</td>
</tr>
<tr>
<td>Sringeri</td>
<td>Arecanut, Spices, Banana.</td>
</tr>
</tbody>
</table>

**Horticulture Crops:**

This district is highly suitable for growing most of the Horticulture crops. However major horticultural crops grown are plantation crops like Coffee, Coconut and Arecanut, spice crops like Cardamom, Pepper Ginger, vegetables like Potato, Chilli, Tomato, flower crops like Rose, Anthuriums, Chrysanthemum, Marigold, fruit crops like Banana, Mango, Mandrins, Sapota.

To boost up horticulture production and increase the area under horticulture crops, different schemes of Zilla panchayath, Taluk panchayath and National horticulture Mission are being implemented in this district and this has resulted in marked increase under the area of horticulture crops along with production. The schemes that come under Zilla Panchayath are raising of coconut seedlings and fruit plants, maintenance of farms and nurseries, encouraging oil palm cultivation, micro irrigation scheme, taluk panchayath schemes include farmers training, distribution of plant protection chemicals at subsidized rate, area expansion and development of fruit crops.

**National Horticulture Mission**

National Horticulture Mission is being implemented from 2006-07 in this district which include following schemes – Establishment of nurseries, Vegetable Seed Production, Area expansion of fruits, spices, flowers, medicinal and aromatic plants, protected cultivation (Green house construction), Organic horticulture, Integrated nutrient management, Integrated pest management, development of processing and marketing facilities (infrastructure), post harvest management activities (packhouses, Onion
Storage Structures, rejuvenation of old and senile plantations and human resource development activities etc.

**Detailed information about NHM Scheme implementation**

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Programmes</th>
<th>Total developed area(Ha) / units from 2006-07 to 2010-11</th>
<th>Beneficiary no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Model Nursery</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Small Nursery (Public Sector)</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Small Nursery (Private Sector)</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Vegetable seed Production</td>
<td>31</td>
<td>135</td>
</tr>
<tr>
<td>5</td>
<td>Mango Area Expansion</td>
<td>1196</td>
<td>1701</td>
</tr>
<tr>
<td>6</td>
<td>Sapota Area Expansion</td>
<td>465</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Banana Area Expansion</td>
<td>1627</td>
<td>2372</td>
</tr>
<tr>
<td>8</td>
<td>Tissue culture Banana</td>
<td>240</td>
<td>320</td>
</tr>
<tr>
<td>8</td>
<td>Cut Flower Area Expansion</td>
<td>280</td>
<td>1026</td>
</tr>
<tr>
<td>9</td>
<td>Loose Flowers expansion</td>
<td>701</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Spice Crop AEP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black Pepper</td>
<td>1428</td>
<td>4612</td>
</tr>
<tr>
<td></td>
<td>Ginger</td>
<td>596</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Organic horticulture</td>
<td>450</td>
<td>1320</td>
</tr>
<tr>
<td>12</td>
<td>Vermicompost/ Biodigester</td>
<td>532</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Integrated nutrient management</td>
<td>24861</td>
<td>86412</td>
</tr>
<tr>
<td>14</td>
<td>Integrated pest management</td>
<td>32747</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Beekeeping</td>
<td>1874 Boxes</td>
<td>251</td>
</tr>
<tr>
<td></td>
<td>Creation Water resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------------------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Community Tank</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Individual Water storage structure</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Human resource management</td>
<td>5548</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Mechanization in Horticulture</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Protected cultivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Poly house</td>
<td>5.67</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Shade net</td>
<td>25.94</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Pack House</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Primary Processing unit</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>104071</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Beneficiary No.-1**

Low cost Poly House( Vegetable Seed Production)

- **Name of Project**: Vegetable seedling production
- **Year of Implementation**: 2010-11
- **Project period**: 2010-11
- **Name of Implementing agency**: Chandrashekar s/o Basappa shetty, Muguluvalli, Chikmagalur Tq.
- **Location of Project**: Chandrashekar s/o Basappa shetty, Muguluvalli, Chikmagalur Tq
- **Total project Cost**: 5,14,402/-
- **Amount Released by DAC**: 1.93 lakhs
- **Expenditure incurred**: 1.93 lakhs
- **Status of Project**: Vegetable seedling production
- **Name of Nursery and crops for which plants are produced**: Chandrashekar s/o Basappa shetty, Vegetable Seedling Nursery, Plants produced- Vegetable Seedlings
- **Quantity produced**: 2,00,000 vegetable seedlings
- **Quantity sold**: 1,80,000
Beneficiary No. -2

SMALL NURSERY

Name of Project : Durge Gowda s/o Ninge Gowda, Vinayaka Nursery, Vastare Post, Somawarpete village, Chikmagalur Tq

Year of Implementation : 2009-10

Project period : 2009-10

Name of Implementing agency : Durge Gowda s/o Ninge Gowda, Vinayaka Nursery, Vastare Post, Somawarpete village, Chikmagalur Tq.

Location of Project : Vinayaka Nursery, Vastare Post, Somawarpete village, Chikmagalur Tq.

Total project Cost : 5.48 lakhs

Amount Released by DAC : 1.50 lakhs

Expenditure incurred : 1.50 lakhs

Status of Project : Nursery producing pepper, Areca, Coffee planting material.

Name of Nursery and crops for which plants are produced : Vinayaka Nursery, pepper, Areca, Coffee planting material

Name of crops for which seedlings produced : pepper, Areca, Coffee planting material.

Quantity produced : pepper-1.00 lakh, Areca-25,000

Quantity sold : Pepper- 1 lakh

Beneficiary No. -3

BANANA AREA EXPANSION

Name and address of Beneficiary whose field visited : B.J.Somashekarappa s/o Gangadarappa, Bikanahalli, Chikmagalur Tq. & Dist.

Total land available with the beneficiary (ha) : 5.32 acre

Crop Cluster under which covered : Banana Area Expansion
Name and Variety of crop planted : Grand nine (Tissue culture Banana)

Sources of planting material : Tissue culture Banana-Ligature Biotech Ltd.
Bangalore

Number of plants planted/planted/rejuvenation : 3800 plants

Number of plants which survived (also indicate percentage Survival): 100%

Total amount of subsidy assistance due to the beneficiary as (Rs)

Amount paid and date of payment : 37,400/-

Mode of payment : Cheque, No 081131

Source of irrigation Water (Bore well/Tube/Canel) : Bore well

Whether Drip/Sprinkler system in use : Drip irrigation

Other inputs provided : No

Whether assistance availed for Organic Farming : No

If so, area covered:

Beneficiary No.4

MANGO AREA EXPANSION

Name and address of Beneficiary whose field visited : Mango Cluster. Kasaba Hobli. Tarikere Taluk.
Chikmagalore Dist. 171 No

Total land available with the beneficiary (ha) : 160 Ha Cluster is covered by mango AEP

Crop Cluster under which covered : Mango cluster

Name and Variety of crop planted : Alphanso

Sources of planting material : Rathnagiri Area. Maharastra

Number of plants which survived (also indicate percentage Survival) : 98%

Total amount of subsidy assistance due to the beneficiary as (Rs):

Amount paid and date of payment : 36,00,000

Mode of payment : Cheque

Source of irrigation Water (Bore well/Tube/Canel): Borewell

Whether Drip/Sprinkler system in use: Drip irrigation/ basin method of irrigation
Other inputs provided: 2009-10: Neem cake
200 kg + Wellgrow 4 kg
2010-11: Micro nutrient 8 kg,
VAM 10 kg, Wellgrow 8 kg

Whether assistance availed for Organic Farming: yes
If so, area covered: 50 Ha

Beneficiary No.-5

**MANGO AREA EXPANSION**

Name and address of Beneficiary whose field visited: Mango Cluster,
Amruthapura Hobli.
Tarikere Taluk.
Chikmagalure Dist. 390

No of farmers covered under mango AEP

Total land available with the beneficiary (ha): 340 Ha Cluster is covered by mango AEP

Crop Cluster under which covered: Mango cluster

Name and Variety of crop planted: Alphanso

Sources of planting material: Rathnagiri Area. Maharastra

Number of plants planted/planted/rejuvenation:

Number of plants which survived (also indicate percentage Survival): 98%

Total amount of subsidy assistance due to the beneficiary as (Rs):

Amount paid and date of payment: 76,50,000

Mode of payment: Cheque

Source of irrigation Water (Bore well/Tube/Canel): Borewell

Whether Drip/Sprinkler system in use: Drip irrigation/ basin method of irrigation

Other inputs provided: 2009-10: Neem cake + Wellgrow
2010-11: Micro nutrient, VAM, Wellgrow

Whether assistance availed for Organic Farming: No
If so, area covered: No

Beneficiary No.-6

**Protected cultivation: Shade net (Capsicum growing)**

Name of Project: Capsicum growing under Shade net
Year of Implementation : 2010-11  
Project period : 2010-11  
Name of Implementing agency : Sanna Nanjundappa S/o Thimmegowda.
Lingla pura, kadur (T). Chikmagalore Dist  
Location of Project : Sanna Nanjundappa S/o Thimmegowda. Lingla pura, kadur/T. Chikmagalore Dist  
Total project Cost : 2,15,000  
Amount Released by DAC : 60300/-  
Expenditure incurred : 60300/-  
Status of Project : Capsicum growing under Shade net  
Total area under shade net : 3000 sq mt.  
Area considered for subsidy : 1000 Sq mt  

**Beneficiary No. -7**  

**SAPOTA AREA EXPANSION**  
Name and address of Beneficiary whose field visited: K.S.Virupakshashetty s/o Shankarappa, Karkipete, Chikmagalur Tq.  
Total land available with the beneficiary (ha) : 2.07 acre  
Crop Cluster under which covered : Sapota Area Expansion  
Name and Variety of crop planted : DSH-1  
Sources of planting material : UAS-Dharwad  
Number of plants planted planted/rejuvenation : 100  
Number of plants which survived (also indicate percentage Survival): 98%  
Total amount of subsidy assistance due to the beneficiary as (Rs): 2009-10: Rs 7516/-, 2010-11: Rs 3914/-  
Amount paid and date of payment: 2009-10: Rs 7516/-  

2010-11: Rs 3914/-  
Mode of payment : Cheque  
Source of irrigation Water (Bore well/Tube/Canel): Borewell  
Whether Drip/Sprinkler system in use : Drip irrigation
Other inputs provided: 2009-10 Neem cake 200kg+Wellgrow 4 kg
2010-11 Micro nutrient 8kg,
VAM 10kg, Wellgrow 8kg

Whether assistance availed for Organic Farming: No

If so, area covered:

Beneficiary No.-8

SMALL NURSERY

Name of Project: Durge gowda s/o Ninge gowda, Vinayaka Nursery, Vastare Post, Somawarpete village, Chikmagalur Tq

Year of Implementation: 2009-10

Project period: 2009-10

Name of Implementing agency: Durge gowda s/o Ninge gowda, Vinayaka Nursery, Vastare Post, Somawarpete village, Chikmagalur Tq.

Location of Project: Vinayaka Nursery, Vastare Post, Somawarpete village, Chikmagalur Tq.

Total project Cost: 5.48 lakhs

Amount Released by DAC: 1.50 lakhs

Expenditure incurred: 1.50 lakhs

Status of Project: Nursery producing pepper, Areca, Coffee planting material.

Name of Nursery and crops for which plants are produced: Vinayaka Nursery, pepper, Areca, Coffee planting material.

Name of crops for which seedlings produced: pepper, Areca, Coffee planting material.

Quantity produced: pepper-1.00 lakh, Areca-25,000

Quantity sold: Pepper- 1 lakh,

Observations:-

(i) Nurseries supported under NHM for vegetable seedlings production under protected cultivation are functioning well and farmers are getting good income with the sale of planting material. In most of the cases, the seedlings are raised on the basis of indents from other farmers.

(ii) Small nurseries for production of black pepper planting material are functioning well. In view of the demand, more such nurseries need to be supported.
(iii) The nursery for production for black pepper planting material functioning under the control of DOH needs to be upgraded.

(iv) Shade net protected cultivation for Capsicum is showing encouraging results at Linglapura village.

(v) Multi-purpose processing unit established at Katagale with the support of NHM for PHM of Arecanut and Pepper has been found very useful and helps in reducing the labour cost as well as improving the quality of produce with negligible post harvest losses.

(vi) Selection and procurement of planting material by the farmers themselves from the DOH approved nurseries has shown better establishment of plants growth and minimum mortality.

(vii) The cluster of about 480 Ha. lab at Talikare taluk developed under NHM, Area Expansion Programme for mango has started giving production is about 25% of the area under crop.

**Recommendations:-**

(i) In view of huge expected production of mango in Tarikare taluk cluster, there is a need to establish ripening chambers, pack houses as well as processing units. The action needs to be initiated.

(ii) In view of the demand, more number of nurseries for production of black pepper planting material need to be supported.

(iii) Multi-purpose processing needs to be supported for reducing the PH losses and improvement of quality.

(iv) In view of field operations for horticulture crops, there is a need to examine the support for tractors of less than 20 HP under horticulture mechanization.
Geography and Climate.

Ramanagara District is geographically situated 12.72 North latitude and east latitude and 77.3 South west of Bangalore. It is the 28th District of Karnataka and is carved out of Bangalore Rural District. The annual average rainfall ranges from 800 to 900 millimeters. The climatic condition and the soil condition of the district is congenial for growing most of the Horticulture crops.

Ramanagara District is surrounded by Mandya District on the Western side, Bangalore Urban Dist. on the East, Chamaraja Nagara Dist on South, Bangalore Rural Dist. on North. This district is 740 feet above the MSL. This district has four taluks [Kanakapura, Ramanagara, Channapattana and Magadi Taluks], 18 Hobli, 130 grama panchayats and 823 Villages.

More than one third of the district is hilly terrain. There are 73 hills in Ramanagara of which Ramagiri, Krishnagiri, Shivagiri, Jalasiddeswara, Revanasiddeswara, Yatirajagiri are important and tourist attraction Places. This district is also known as SILK CITY, since 15,000ha area is under sericulture. And nearly 45 nos. reeling centers are functioning in the district.

Total Population of the district is 10.30 lakhs. Main occupation is agriculture, Horticulture, Sericulture and other allied activities.

Total geographical area of Ramanagara District is 355912 hectares (3555 sq. kms). The Total Cultivable Area is 176401 Ha of which net sown agriculture cropped area 131000Ha.

Geographical Area of the District and Scope for Horticulture Development.

- Total geographical Area : 355912 Ha
- Total Cultivable Area : 176401 Ha
- Total Agriculture Crops Area : 131000Ha
- Total Horticulture Crops Area : 58330 Ha
- % tage of Horticulture Crops in geographical Area of : 16.38 %
Source of supply of seed/planting material along with name of the varieties.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Section</th>
<th>No. of Nurseries</th>
<th>Crop &amp; Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Crop</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>Sapota</td>
</tr>
<tr>
<td></td>
<td>Government</td>
<td></td>
<td>Mango</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Guava</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pomegranate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Coconut</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Minor Fruits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>Papaya</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td></td>
<td>Lime</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ornamental</td>
</tr>
</tbody>
</table>

Crop wise extent of area (Ha.) identified for rejuvenation.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Crop</th>
<th>Total Area (District)</th>
<th>2010-11</th>
<th>2011-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mango</td>
<td>20010</td>
<td>400</td>
<td>400</td>
</tr>
</tbody>
</table>

Crops identified for the District indicating specific varieties.

- Mango : Badami and Mallika
- Sapota : Cricket Ball Kallipatti.
- Banana : G-9 and Elakki.
Flowers : Rose : Gladiator, Red Ruby.
Loose Flowers : Local varieties.

**Crop wise (variety wise) Production and supply of nucleus seed/planting material and Outsourcing of planting material indicating address of recognized sources, if need be.**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Section</th>
<th>No. of Nurseries</th>
<th>Annual Production Capacity (No. of Graft plants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Crop</strong></td>
</tr>
<tr>
<td>1</td>
<td>Government</td>
<td>8</td>
<td>Sapota</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mango</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Guava</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pomegranate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Coconut</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Minor Fruits</td>
</tr>
<tr>
<td>2</td>
<td>Private</td>
<td>15</td>
<td>Papaya</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lime</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ornamental</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Crop</th>
<th>Variety</th>
<th>Annual Production Capacity (No. of Graft plants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sapota</td>
<td>Cricket Ball Kalipatti, DSH-1 &amp; 2</td>
<td>1,00,000</td>
</tr>
<tr>
<td>2</td>
<td>Mango</td>
<td>Alphonso Rasapuri</td>
<td>1,00,000</td>
</tr>
<tr>
<td>3</td>
<td>Fig</td>
<td>Bellary Red</td>
<td>25,000</td>
</tr>
<tr>
<td>4</td>
<td>Pomegranate</td>
<td>Bhagwa</td>
<td>58,000</td>
</tr>
<tr>
<td>5</td>
<td>Papaya</td>
<td>Thaiwan</td>
<td>1,00,000</td>
</tr>
<tr>
<td>6</td>
<td>Ornamental</td>
<td>Local</td>
<td>2,00,000</td>
</tr>
<tr>
<td>7</td>
<td>Coconut</td>
<td>Local</td>
<td>20,000</td>
</tr>
<tr>
<td>8</td>
<td>Lime</td>
<td>Local</td>
<td>6,000</td>
</tr>
<tr>
<td>9</td>
<td>Minor Fruits</td>
<td>Jack, Sithaphal, Amla, Rose apple, Jamun, Bhale etc</td>
<td>16,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Total</strong> 4,25,000</td>
</tr>
</tbody>
</table>

59
Abstract

Number of nurseries/ tissue culture labs, green house established along with the capacity of production of planting material.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Component</th>
<th>Numbers</th>
<th>Production Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Green house</td>
<td>5</td>
<td>3,00,000</td>
</tr>
<tr>
<td>2</td>
<td>Nurseries</td>
<td>10</td>
<td>4,25,000</td>
</tr>
</tbody>
</table>

Extent of creation of infrastructure facilities such as community tanks, tube wells, drip irrigation, tissue culture units, disease forecasting units, biological labs and their utility.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Component</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Community Tank</td>
<td>15 Nos</td>
</tr>
<tr>
<td>2</td>
<td>Drip irrigation</td>
<td>4000 ha</td>
</tr>
<tr>
<td>3</td>
<td>Biological labs</td>
<td>1 No.</td>
</tr>
</tbody>
</table>
### Area, production and productivity of the crop (crop wise) (2004-05 onwards)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mango</td>
<td>174</td>
<td>1376</td>
<td>7.9</td>
<td>1745</td>
<td>1563</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banana</td>
<td>283</td>
<td>6896</td>
<td>24.36</td>
<td>2782</td>
<td>6988</td>
<td>25.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sapota</td>
<td>580</td>
<td>5435</td>
<td>9.37</td>
<td>528</td>
<td>4965</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grapes</td>
<td>11</td>
<td>330</td>
<td>30</td>
<td>14</td>
<td>905</td>
<td>62.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coconuts</td>
<td>259</td>
<td>1726</td>
<td>0.001</td>
<td>2553</td>
<td>1435</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arecanuts</td>
<td>187</td>
<td>1998</td>
<td>1.06</td>
<td>1848</td>
<td>1396</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Betelvine</td>
<td>392</td>
<td>5217</td>
<td>13.3</td>
<td>383</td>
<td>4849</td>
<td>12.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tomato</td>
<td>908</td>
<td>1768</td>
<td>19.48</td>
<td>933</td>
<td>2196</td>
<td>23.54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potato</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chilies</td>
<td>363</td>
<td>2022</td>
<td>5.57</td>
<td>396</td>
<td>2976</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brinjal</td>
<td>285</td>
<td>7365</td>
<td>25.84</td>
<td>313</td>
<td>7989</td>
<td>25.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td>9</td>
<td>102</td>
<td>11.33</td>
<td>25</td>
<td>322</td>
<td>12.88</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cauliflower</td>
<td>11</td>
<td>144</td>
<td>13.09</td>
<td>10</td>
<td>107</td>
<td>10.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tamrind</td>
<td>841</td>
<td>3127</td>
<td>3.71</td>
<td>836</td>
<td>3513</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your text</td>
<td>53</td>
<td>598</td>
<td>11.3</td>
<td>50</td>
<td>641</td>
<td>12.82</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td>Ginger</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turmeric</td>
<td>88</td>
<td>352</td>
<td>4</td>
<td>119</td>
<td>565</td>
<td>4.7</td>
</tr>
<tr>
<td>Rose</td>
<td>8</td>
<td>16</td>
<td>2</td>
<td>14</td>
<td>28</td>
<td>1.9</td>
</tr>
<tr>
<td>Jasmine</td>
<td>275</td>
<td>1569</td>
<td>5.7</td>
<td>305</td>
<td>1669</td>
<td>5.4</td>
</tr>
<tr>
<td>Crossandra</td>
<td>28</td>
<td>22</td>
<td>0.78</td>
<td>31</td>
<td>24</td>
<td>0.7</td>
</tr>
<tr>
<td>Aster</td>
<td>8</td>
<td>48</td>
<td>6</td>
<td>11</td>
<td>64</td>
<td>5.8</td>
</tr>
<tr>
<td>Others</td>
<td>249</td>
<td>3149</td>
<td>12.6</td>
<td>2943</td>
<td>4250</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>519</td>
<td>73</td>
<td>4.90</td>
<td>5163</td>
<td>7286</td>
<td>5.5</td>
</tr>
</tbody>
</table>

**Beneficiary No. -1**

**AREA EXPANSION PROGRAMME**

1. Name and address of Beneficiary whose field visited.

    Sri. Shivanna,Padarahalli Village,Kasaba Hobli, Ramanagara taluk, Ramanagara District, Karnataka State. (during 2010-11 under NHM.)

2. Total land available with the beneficiary (ha). : 0.80ha.
3. Crop Cluster under which covered: MANGO AEP.
4. Name and variety of crop planted: Badami (Alphanso)
5. Sources of planting material: Department Of Horticulture, Karnataka
6. Number of plants planted: 60
7. Date of planting: August 2010.
8. Number of plants which survived: 60 (100%)
9. Total amount of subsidy assistance due to the beneficiary as (Rs) :-
10. Amount paid and date of payment: Rs. 5156.00
11. Mode of payment: Through Bank
13. Whether Drip/ Sprinkler system in use: No
14. Other inputs provided: Neem Cake, liquid Organic Manure and Others.
16. If so, area covered: -
17. Assistance availed: Rs.0.30 Lakhs.
18. Available marketing facility for the crop: APMC RAMANAGARA.
19. Other infrastructure available in the vicinity: NIL.
21. Any other relevant observation by the JIT: -
Beneficiary No. -2

Rejuvenation : Mango.

1. Name and address of Beneficiary whose field visited: Sri. Prabhu, Padarhalli Village, Kasaba Hobli, Ramanagara taluk, Ramanagara District, Karnataka State. (during 2009-10 under NHM.)

2. Total land available with the beneficiary (ha). : 5.0 ha.

3. Crop Cluster under which covered. : MANGO Rejuvenation.

4. Name and variety of crop planted. : Badami (Alphanso)

5. Sources of planting material : Department Of Horticulture, Karnataka

6. Number of plants Rejuvenated. : 100

7. Date of Rejuvenation : August 2009.

8. Number of plants which survived : 100 (100%)

9. Total amount of subsidy assistance due to the beneficiary as (Rs) :

10. Amount paid and date of payment. : Rs.15,000.00

11. Mode of payment. : Through Bank


13. Whether Drip/ Sprinkler system in use. : YES.

14. Other inputs provided : Neem Cake, liquid Organic Manure and Others.

15. Whether assistance availed for organic Farming : No.

16. If so, area covered : -

17. Assistance availed : -

18. Available marketing facility for the crop : APMC RAMANAGARA.

19. Other infrastructure available in the vicinity. : NIL.

21. Any other relevant observation by the JIT.

**Beneficiary No. -3**

**Technology Dissemination through FLD**

- **Name of Project**: Technology Dissemination through FLD
- **Year of Implementation**: 2010-11
- **Project period**: 2010-11
- **Name of implementing Agency**: KSHMA KARNATAKA
  (Indian Institute Of Horticulture, GOI, Bangalore.)
- **Location of Project**: Ramanagara District.
- **Total Project Cost**: Rs.10.00 Lakhs.
- **Amount Released by DAC**: Rs.10.00 Lakhs.
- **Expenditure incurred**: Rs.10.00 Lakhs.

**Status:**

- Name of Crop: Mango
- Technology adopted: CONTROL OF FRUIT FLY USING PHERAMON TRAPS.
- Whether location easily approachable; YES

**Beneficiary No. -4**

**Name of Project**: Establishing Fruit Ripening Chamber.

**Smt.Sarojamma W/o Late Siddaiah**

Kurubarahalli Village, Kasaba Hobli,
Ramanagara taluk, Ramanagara District, Karnataka State.

**Year of Implementation**: 2010-11
Project period : 2010-11
Name of implementing Agency : KSHMA, Karnataka.
Location of Project : Kurubarahalli Village, Kasaba Hobli,
Total Project Cost : a. Rs.49.50 lakhs. (Total Capital Cost : Rs.24.00 lakhs).
Amount Released by DAC : Rs. 9.60 lakhs
Expenditure incurred : Rs. 9.60 lakhs
Current Status of project : Fruits (Mango and Banana) are ripened and Marketing in and around Bangalore and other Cities.

- Capacity : 2400MT
- Infrastructure facilities created :
- Whether funds disbursed : YES

Beneficiary No.-5
Name of Project : Establishment Of BIO DIGESTER
Year of Implementation : 2009-10
Project period : 2009-10
Name of implementing Agency : KSHMA, Karnataka.
Location of Project : Sri. Narasimhaiah Padaralahalli Village, Kasaba Hobli,
Ramanagara taluk, Ramanagara District, Karnataka State
Total Project Cost : Rs. 0.60 Lakhs.
Amount Released by DAC : Rs.0.30 Lakhs
Expenditure incurred : Rs.0.30 Lakhs
Status:
- Crops covered : Mango, Banana, Papaya, Flowers
- No of farmers involved : One
- Name & Address of Certifying agency : Not applicable.
Beneficiary No.- 6

Name of Project : Development of APMC Market yard & Marketing Halls.
Year of Implementation : 2007-08
Project period : 2007-08-2009-10
Name of implementing Agency : KSHMA, Karnataka.

Location of Project : APMC Yard, Ramanagara Town, Ramanagara taluk, Ramanagara District, Karnataka State.

Total Project Cost : Rs.48.00 Lakhs.
Amount Released by DAC : Rs.12.00Lakhs
Expenditure incurred : Rs.12.00Lakhs

Status : At APMC Yard in Ramanagara Cement Flat farm with in market and three market hall are in good condition and utilized by the farmers.

- Size of market in terms of area : 15acres.
- Facilities created ; Cement Flat farm with in market and three market hall
- Commodities sold : Fruits and Vegetables.
- Approachability : Excellent (Bangalore and Mysore State Highway )
- Condition of market : GOOD.
- Whether funds disbursed to Agency : YES.

Observations:-

(i) In case of Area Expansion for different crops, cluster approach is not being followed.

(ii) Rejuvenation of mango orchards has impressive effect on the productivity and beneficiaries are happy. The rejuvenation has been taken up for orchards. There is a lot of scope for its extension and need to be supported.
(iii) Ripening chamber for banana and mangoes is popular among beneficiaries and the numbers of units need to be increased by following strictly the technical specifications and under hygienic conditions.

(iv) At present, for mango ripening the charges being taken are on the higher side. The Department of Horticulture may explore the possibility of reducing these charges to a reasonable rate.

**Recommendations:-**

(i) In case of AEP, the cluster approach need to be followed as per NHM norms.

(ii) In view of increase in area expansion and rejuvenation, there is a need to have more number of ripening chambers.
Proceedings of the wrap-up meeting of Joint Inspection Team held on 07.05.2011 at KSHMA office, Lalbagh, Bangalore.

Members present:

1. Dr. H.V.L. Bathla, Chief Consultant, NHM, GOI.
2. Dr. R. KrishnaManohar, Principal Investigator (PFDC), UAS, Bangalore.
3. Director, Directorate of Arecanut and Spice Development, Calicut.
4. Director, Directorate of Cashew & Cocoa Development, Kochi.
5. Dr. R. Jayaparakash, Executive Director, KSHMA, Lalbagh, Bangalore.

The Joint Inspection Team (JIT) under the leadership of Dr. H.V.L. Bathla, Chief Consultant, NHM, GOI visited Ramanagar, Mandya, Mysore, Hassan and Chickmagalure districts of Karnataka from 2nd to 7th May 2011. During the wrap-up meeting held on 7th May 2011 with Executive Director (NHM) and detailed interaction, the points enunciated in the meeting are as follows.

1. Infrastructure developed under private sector are progressing well and need to be encouraged in future on need basis.
2. There is a need of effective co-ordination between Department and Agriculture Universities, since financial assistance provided to the universities has not given any desired results. Even primary infrastructure at Nagenahalli Organic Farming Centre and College of Agriculture, Hassan has not been initiated.
3. The cluster approach as per the norms of NHM is lacking except in Chickmagalure district. The initiation by Deputy Director of Horticulture, Chickmagalore is the point of appreciation.
4. The JIT visit to various districts need to be effectively managed to avoid unnecessary journey time.
5. The Deputy Directors of Horticulture should provide every document to JIT members during the visit which was lacking in all the districts except Chickmagalore.
General Recommendations:-

(i) In area expansion programmes, technical support and supervision need to be improved.

(ii) In AEP, cluster approach as per NHM norms need to be strictly followed.

(iii) In general, the nurseries supported under NHM producing vegetable seedlings are producing quality material on demand from other farmers and needs to be encouraged.

(iv) There is a need to establish ripening chambers, pack houses for mango and banana respectively in big clusters where production has started.

(v) In view of scope for rejuvenation for mango orchards, more importance should be given to rejuvenation.

(vi) Bee keeping is found to be more beneficial because of enhancing the pollination in increasing the yield of crops like guava, coconut, lime, papaya & vegetables. This needs to be encouraged and training should be imparted.

(vii) There is a need to maintain the records of the activities of Plant Health Clinics.

(viii) Plant Health Clinic in the private sector should have technical person for analysis & suggestions.

(ix) The model nursery supported for medicinal plant to Agriculture College, Hassan should start production of planting material.

(x) The model nursery supported under NHM to Organic Farming Research Station, Naganahalli for production of planting material should start production of material immediately.

(xi) The plant health clinic sanctioned to Organic Farming Research Station, need to be established as per norms for the benefit of farmers and this should be monitored by DOH.