Report of the Joint Inspection Team on its visit to Chhattisgarh during 10 to $15^{\text {th }}$ September, 2015 to review the progress under the Mission for Integrated Development of Horticulture (MIDH)


Districts visited by J.I.T of National Horticulture Mission

1. Rajnandgaon (LWE) 2. Dhamtari 3. Kanker (LWE) 4. Baster (Jagdalpur, LWE)
2. Dantewada 6. Kondagaon 7. Raipur


बागवानी मिशन
Horticulture Mission

## Mission for Integrated Development of Horticulture <br> Ministry of Agriculture \& Farmers Welfare Department of Agriculture, Cooperation \& Farmers Welfare Krishi Bhawan, New Delhi-110001

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## OBSERVATIONS

1. Protected cultivation has not made much head way in Baster, Kondagaon districts. Therefore, farmers and field staff need training on protected cultivation in respect of plantation of high value crops, green house production technologies and canopy management.
2. JIT noticed that funds sanctioned for beekeeping and mushroom components are underutilized.
3. Farmers need training in IPM practices in vegetable cultivation.
4. The focus of development under MIDH in the districts visited has been on area expansion.
5. Senile orchards (mango/ guava) in Departmental nurseries not only contribute to decrease in productivity but also pose a threat of spreading disease in the nearby recent plantation. The extent of coverage under rejuvenation is negligible when compared to the existing problem.
6. The progress under components viz. IPM, PHM and rejuvenation of senile orchards have been found beyond the satisfaction level.
7. The efforts made by Scientists, Agriculture College, Jagdalpur under rejuvenation of cashew nut with the help of tribal beneficiary is worth appreciation and is a welcome sign which is likely to transform the economic condition of many tribal farmers.
8. Structural design defects have been noticed in the construction of evaporative cool chamber and pack house in most of the locations.
9. Inadequate facilities exist for Post harvest handling of horticultural produce especially during glut seasons.

## ACTIONABLE ISSSUES

1. By and large a good progress has been achieved under the production and productivity related programmes but there is a need to support the various sectors of NHM scheme viz. Integrated Pest Management, Rejuvenation, Bee keeping, mushroom production and Post harvest management.
2. Concerted efforts are required to promote pollination support through bee keeping in all districts for quality production of Horticultural produce.
3. Not much tangible progress has been made under nurseries (private sector) despite the target approved in AAP for their establishment.
4. Vegetable seedlings need to be grown in poly tunnel / insect proof net cover to avoid vector borne viral diseases.
5. Pack house and evaporative cool chamber developed with the assistance of mission fund, need to be monitored in the state.
6. Use of highly toxic pesticide in vegetable clusters need to be discouraged by augmenting IPM Technology adjoining to big cities. The KVK's which are funded for various activities need to be fully utilized for IPM activity.
7. Construction of community tube well in Baster / Kondagaon district could be carried out more efficiently and needs completion at an early date.
8. Nurseries need better upkeep and maintenance along with display of boards indicating the plants / varieties being multiplied.
9. There is an urgent need to train the farmers and provide assistance under horticulture mechanization for monitoring the senile orchards.

## REPORT OF THE JOINT INSPECTION TEAM ON ITS VISIT TO CHHATTISGARH DURING 10 TO $15^{\text {TH }}$ SEPTEMBER, 2015 TO REVIEW THE PROGRESS UNDER THE MISSION FOR INTEGRATED DEVELOPMENT OF HORTICULTURE (MIDH)

## INTRODUCTION

A Joint Inspection Team was constituted by the Component Authority to monitor the National Horticulture Mission Progress of Chhattisgarh State during 2014-15 through field verification. This was communicated vide letter No. 337/2006 Hort., of Govt. of India, Ministry of Agriculture, Department of Agriculture \& Cooperation, (Horticulture Division), dated $28^{\text {th }}$ April, 2015

## The Joint Inspection Team comprised of the following members -

1. Dr. Om Prakash, Chief Consultant (MIDH), DAC New Delhi.
2. Dr. G. D. Sahu, Asstt. Professor and PI(PFDC), Department of Horticulture, Indira Gandhi Krishi Vishwavidyalaya, Raipur.
3. Dr. Sunil Dubey, Additional Director, Horticulture, Indrawati Bhavan, Naya Raipur (Chhattisgarh)
4. Shri Bhupendra Pandey, Joint Director and Nodal Officer, Nominee of SMD, Indrawati Bhavan, Naya Raipur (Chhattisgarh).

The JIT conducted its preliminary field verification in the State from 10-15 ${ }^{\text {th }}$ September, 2015. The Team was accompanied by Dr. Sunil Dubey, Additional Director, Horticulture and Shri Bhupendra Pandey, Joint Director and Nodal Officer, Nominee of SMD. The districts covered during JIT were Rajnandgaon, Dhamtari, Durg, Kanker, Baster, Kondagaon, Dantewada and Raipur. A set of proformas developed by the Department of Agriculture \& Cooperation were used for monitoring / recording the observations on progress of National Horticulture Mission.

## STATE PROFILE


#### Abstract

About Chhattisgarh State: The state of Chhattisgarh, with Raipur as its capital, came into existence on $1^{\text {st }}$ November 2000 by separation of 16 districts of Chhattisgarh region from Madhya Pradesh. Chhattisgarh is situated between 17$23.7^{0} \mathrm{~N}$ latitude and $80.40-83.38^{\circ} \mathrm{E}$ longitudes in Central eastern part of India with more than 20 million populations. The total geographical area of the state is 136.03 thousand sq. km.


Geographical features: Geographically, Chhattisgarh is divided into three distinct land areas viz., Chhattisgarh Plains, Bastar Plateau and Northern Hill Zones.

In the north of the state are the mighty Satpura Ranges, in the center the plains of River Mahanadi and its tributaries and in the South is the plateau of Bastar. The state receives annual rainfall ranging from less than 1200 mm to greater than 1600 mm in different areas. The border of Chhattisgarh is touched by the states Uttar Pradesh in the North, Bihar in the North East, Orissa in the East, Andhra Pradesh in the South and South East, Maharashtra in South West and Madhya Pradesh in the West. Paddy is the main crop of the state and due to abundance of production of paddy Chhattisgarh was earlier known as 'Rice Bowl of Central India.'

General climatic features: The general climate of Chhattisgarh state is dry subhumid type where the annual potential evapo-transpiration is slightly higher than the annual rainfall. The average annual rainfall of the region is around 1400 mm and about 90 to 95 percent of this amount is received during southwest monsoon season (June-October). The monsoon sets in around $10^{\text {th }}$ June in the tip of the Bastar area and covers the entire area by $25^{\text {th }}$ June. Months of July and August are the wettest months. 3 Rainfall in October month occurs due to cyclonic activity in the Bay of Bengal and October rainfall is most crucial for the productivity of rice in the state.

Winter conditions set in from mid November when the average minimum temperature starts falling below $15^{\circ} \mathrm{C}$. The northern districts especially Bilaspur division have more severe and longer winter period as compared to southern parts especially Bastar division.

The atmospheric humidity is very high ( $>90 \%$ ) during monsoon months and starts decreasing from October onwards and reaches as low as 15-20 percent during peak summer months.

Soil type: The soils of Chhattisgarh vary considerably in the three agro-climatic zones. Though the nomenclature is different, the types of the soils especially the physical properties are the same. The different soils that exist in the three agroclimatic zones are as follows:

| Chhattisgarh Plains | Bastar Plateau | Northern hills |
| :--- | :--- | :--- |
| Bhata (Lateritic) | Marhan (Coarse sandy) | Hilly soils |
| Matasi (Sandy loam) | Tikra (Sandy) | Tikra |
| Dorsa (Clay loam) | Mal (Sandy loam) | Goda chawar |
| Kanhar (Clay) | Gabhar (Clay \& Clay loam) | Bahara |

The first two categories of the soils in the three Agro climatic zones are very light type of soils with very low water retentive capacity. As a result water stress or drought conditions occur either during the crop growing season when there is a break of monsoon for more than 5-7 days or immediately after the withdrawal of monsoon. In Bastar plateau and northern hill zone rice is grown in upland conditions without bunds and they are called uplands. In Chhattisgarh plains rice is mostly grown under bunded condition.

Therefore, there is an urgent need to diversify cropping pattern wherever conditions are favorable to grow horticultural crops and to earn higher net profit in unit area.

Agro-climatic zones: Agro-climatically, Chhattisgarh may be divided into 3 distinct agro climate zones with immense potential of horticulture development.

| SI. <br> No. | Agro-climatic <br> Zone | Districts |
| ---: | :---: | :--- |
| 1. | Chhattisgarh <br> Plains | Raipur, Mahasamund, Dhamtari, Durg, Rajnandgaon, <br> Kabirdham, Bilaspur, Korba, Janjgir and part of Kanker <br> district (Narharpur \& Kanker block) along with part of <br> Raigarh district |
| 2. | Bastar Plateay | Jagdalpur, Dantewada and remaining part of Kanker <br> district. |
| 3. | Northern Hills | Surguja, Koriya and Jashpurnagar and Dharamjaigarh <br> Tehsil of Raigarh district. |

Approved Annual Action Plan 2014-15
Date : 11.07.2014
(Rs. in lakhs)

| S. <br> No. | Item | Unit | Scale Per Unit Cost Norms* (lakh) | Subsidy (Proposed Assistance) | Approved Target |  | Gol Share | State Share | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Phy. | Fin. |  |  |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A. | RESEARCH |  |  |  |  |  |  |  |  |
| B. | PLANTATION INFRASTRUCTURE DEVELOPMENT |  |  |  |  |  |  |  |  |
| B. 1 | Production of planting material |  |  |  |  |  |  |  |  |
|  | i) Hi-tech nursery (4 ha) [100\% to public sector limited to Rs 100 lakh/unit and in case of private sector, credit linked back-ended subsidy @ 40\% of cost, subject to a maximum of Rs. 40 lakh/unit, for a maximum of 4 ha. as project based activity on prorata basis. Each nursery will produce a minimum of 50,000 numbers per hectare of mandated perennial fruit crops/ tree spices/ aromatic trees/plantation crops per year, duly certified for its quality.] |  |  |  |  |  |  |  |  |
|  | Public Sector | Nos. | 100.00 | 100.00 | 2 | 200.00 | 170.00 | 30.00 |  |
|  | Sub Total |  |  |  | 2 | 200.00 | 170.00 | 30.00 |  |


| ii)Small Nursery (1ha) [100\% to public sector and in case of private sector, credit linked backended subsidy of cost, subject to a maximum of Rs. 7.50 lakh/unit, as project based activity. Each nursery will produce a minimum of 25,000 numbers of mandated perennial vegetatively propagated fruit plants/tree spices/plantation crops per year, aromatic plants, duly certified for its quality.] |  | $\begin{aligned} & \text { 15.00/ } \\ & \mathrm{Ha.} \end{aligned}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Public Sector | Nos. | 15.0000 | 15.0000 | 8 | 120.00 | 102.00 | 18.00 |  |
| Private Sector | Nos. | 15.0000 | 7.5000 | 4 | 30.00 | 25.50 | 4.50 |  |
| Sub Total |  |  |  | 12 | 150.00 | 127.50 | 22.50 |  |
| $\quad$ Upgrading <br> iii) $\begin{aligned} & \text { nursery } \\ & \text { infrastructure } \text { to } \\ & \text { meet }\end{aligned}$ accreditation norms (Up to Rs. 10.00 lakh/nursery of 4 ha ) [100\% to public sector and $50 \%$ of cost to private sector subject to a maximum of Rs. 5.00 lakh/nursery. The infrastructure facilities will include establishment of hot bed sterilization of media, Working shed, Virus indexing facility (for citrus \& apple), Hardening chamber/net house, Mist chamber, Establishment of Mother Block, Irrigation and fertigation facility/unit.] |  |  |  |  |  |  |  |  |
| Public Sector | Nos. | 10.0000 | 10.0000 | 20 | 200.00 | 170.00 | 30.00 |  |
| Sub Total |  |  |  | 20 | 200.00 | 170.00 | 30.00 |  |
| iv) Setting up of new TC Units. [100\% of total cost to public sector and in case of private sector, credit linked back ended subsidy @ 40\% of cost. Each TC unit will produce a minimum of 25 lakh plants/year of mandated crops, duly hardened, for which protocols are available for commercial use.] |  |  |  |  |  |  |  |  |
| Public Sector | Unit | 250.00 | 250.0000 | 0 | 0.00 | 0.00 | 0.00 |  |
| Private Sector | Unit | 250.00 | 100.0000 | 0 | 0.00 | 0.00 | 0.00 |  |
| Sub Total |  |  |  | 0 | 0.00 | 0.00 | 0.00 |  |
| v) Seed production for vegetables and spices |  |  |  |  |  |  |  |  |


|  | a) Open pollinated crops [For public sector $100 \%$, for private sector $35 \%$ in general areas and $50 \%$ in Tribal Sub Plans (TSP) areas, limited to 5 ha. Output target of seed for each crop will be fixed by the individual state] |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Public Sector | Ha. | 0.3500 | 0.3500 | 50 | 17.50 | 14.88 | 2.63 |  |
|  | Private Sector- General Area | Ha . | 0.3500 | 0.1225 | 50 | 6.13 | 5.21 | 0.92 |  |
|  | Private Sector- TSP Area | Ha. | 0.3500 | 0.1750 | 50 | 8.75 | 7.44 | 1.31 |  |
|  | Sub Total |  |  |  | 150 | 32.38 | 27.52 | 4.86 |  |
|  | Total (B.1) |  |  |  | 180 | 582.38 | 495.02 | 87.36 |  |
| B2. | Establishment of new gardens (Area expansion) |  |  |  |  |  |  |  |  |
|  | 1. Fruits |  |  |  |  |  |  |  |  |
|  | (a) Cost intensive crops (For a maximum area of 4 ha per beneficiary) |  |  |  |  |  |  |  |  |
|  | i) Strawberry |  |  |  |  |  |  |  |  |
|  | a) Without Integration [Maximum of Rs. 0.50 lakh/ha. ( $40 \%$ of cost) for meeting the expenditure on planting material and cost of INM/IPM in three instalments of 60:20:20 subject to survival rate of $75 \%$ in 2nd Year and $90 \%$ in 3rd year. | На. | 1.2500 | 0.5000 | 25 | 12.50 | 10.63 | 1.88 |  |
|  | ii) Banana (TC) |  |  |  |  |  |  |  |  |
|  | a) Integrated package with drip irrigation. [Maximum of Rs. 1.20 lakh/ha ( $40 \%$ of cost) for meeting the expenditure on planting material and cost of material for drip system, INM/IPM etc., in 2 instalments (75:25).] | Ha. | 3.0000 | 0.9000 | 65 | 58.50 | 49.73 | 8.78 |  |
|  | b) Without integration [Max. of Rs. 0.50 lakh per ha, ( $40 \%$ of cost) for meeting the expenditure on planting material and cost of INM/IPM in 2 instalments (75:25). In the case of TSP areas, assistance will be @ $50 \%$ of cost in 2 instalments (75:25).] | Ha. | 1.2500 | 0.5000 |  |  |  |  |  |
|  | General Area | Ha . | 1.2500 | 0.3750 | 667 | 250.13 | 212.61 | 37.52 |  |
|  | TSP Area | Ha . | 1.2500 | 0.4688 | 664 | 311.25 | 264.56 | 46.69 |  |
|  | Sub Total |  |  |  | 1331 | 561.38 | 477.17 | 84.21 |  |
|  | -2nd Year 25\% | Ha . | 0.832 | 0.1040 | 3050.00 | 317.20 | 269.62 | 47.58 |  |
|  | Sub Total (Banana-TC) |  |  |  | 4381 | 878.58 | 746.79 | 131.79 |  |
|  | iii) Papaya |  |  |  |  |  |  |  |  |


|  | a) Integrated package with drip <br> irrigation. [Maximum of Rs. 0.80 <br> lakh/ha (40\% of the cost) for <br> meeting expenditure on planting <br> material, drip irrigation and cost of <br> material for INM/IPM, in 2 <br> instalments (75:25).] |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| b) Without integration [Maximum <br> of Rs. 0.30 lakh/ha (50\% of cost) <br> for meeting the expenditure on <br> planting material and cost of <br> INM/IPM in 3 instalments, in all | Ha. |  |  |  |  |  |  |


| c) Pomegranate (5x5) | Ha. | 0.9635 | 0.2891 | 85 | 24.57 | 20.88 | 3.69 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sub Total |  |  |  | 158 | 40.35 | 34.30 | 6.05 |  |
| - 2nd Year 20\% |  |  |  |  |  |  |  |  |
| a) Mango | Ha. | 0.220 | 0.0330 | 500 | 16.50 | 14.03 | 2.48 |  |
| b) Litchi | На. | 0.235 | 0.0353 | 150 | 5.29 | 4.49 | 0.79 |  |
| c) Lime | Ha. | 0.3534 | 0.0530 | 200 | 10.60 | 9.01 | 1.59 |  |
| d) Guava | На. | 0.2334 | 0.0350 | 200 | 7.00 | 5.95 | 1.05 |  |
| e) Custard Apple | Ha. | 0.2334 | 0.0350 | 200 | 7.00 | 5.95 | 1.05 |  |
| Sub Total |  |  |  | 1250 | 46.39 | 39.43 | 6.96 |  |
| - 3rd Year 20\% |  |  |  |  |  |  |  |  |
| a) Mango | Ha. | 0.220 | 0.0330 | 500 | 16.50 | 14.03 | 2.48 |  |
| b) Litchi | Ha. | 0.235 | 0.0353 | 150 | 5.29 | 4.49 | 0.79 |  |
| c) Lime | На. | 0.3534 | 0.0530 | 150 | 7.95 | 6.76 | 1.19 |  |
| e) Guava | Ha. | 0.2334 | 0.0350 | 150 | 5.25 | 4.46 | 0.79 |  |
| Sub Total |  |  |  | 950 | 34.99 | 29.74 | 5.25 |  |
| II. Vegetable (For maximum area of 2 ha per beneficiary) |  |  |  |  |  |  |  |  |
| i) Hybrid [40\% of cost in general areas and in the case of TSP areas, assistance will be @ $50 \%$ of cost.] | На. | 0.5000 | 0.2000 |  |  |  |  |  |
| General Area |  |  |  |  |  |  |  |  |
| a) Onion | Ha. | 0.5000 | 0.2000 | 650 | 130.00 | 110.50 | 19.50 |  |
| b) Potato | Ha. | 0.5000 | 0.2000 | 800 | 160.00 | 136.00 | 24.00 |  |
| c) Tomato | Ha. | 0.5000 | 0.2000 | 35 | 7.00 | 5.95 | 1.05 |  |
| Sub Total |  |  |  | 1485 | 297.00 | 252.45 | 44.55 |  |
| TSP Area |  |  |  |  |  |  |  |  |
| b) Onion | Ha. | 0.5000 | 0.2500 | 600 | 150.00 | 127.50 | 22.50 |  |
| d) Potato | Ha. | 0.5000 | 0.2500 | 900 | 225.00 | 191.25 | 33.75 |  |
| e) Tomato | Ha. | 0.5000 | 0.2500 | 300 | 75.00 | 63.75 | 11.25 |  |
| Sub Total |  |  |  | 1800 | 450.00 | 382.50 | 67.50 |  |
| Total (Fruits and Vegetable) |  |  |  |  | 1958.91 | 1665.07 | 293.84 |  |
| III. Mushrooms |  |  |  |  |  |  |  |  |
| i) Production unit [100\% of the cost to public sector and $40 \%$ of cost for private sector, for meeting the expenditure on infrastructure, as credit linked back ended subsidy.] |  |  |  |  |  |  |  |  |
| Public Sector | Unit | 20.0000 | 20.0000 | 1 | 20.00 | 17.00 | 3.00 |  |
| Private Sector | Unit | 20.0000 | 8.0000 | 1 | 8.00 | 6.80 | 1.20 |  |
| Sub Total |  |  |  | 2 | 28.00 | 23.80 | 4.20 |  |
| Total (Mushroom) |  |  |  | 2 | 28.00 | 23.80 | 4.20 |  |


| IV. Flowers (For a maximum of 2 ha per beneficiary) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| i) Cut flowers [40 \% of the cost for S\&M farmers and $25 \%$ of cost to other category farmers in general areas, $50 \%$ of cost in NE \& HS, TSP areas, A\&N and Lakshadweep Islands.] |  |  |  |  |  |  |  |  |
| General Area |  |  |  |  |  |  |  |  |
| Other Category Farmers |  |  |  |  |  |  |  |  |
| Rose | Ha . | 1.0000 | 0.2500 | 50 | 12.50 | 10.63 | 1.88 |  |
| Gerbera | Ha . | 1.0000 | 0.2500 | 50 | 12.50 | 10.63 | 1.88 |  |
| Sub Total |  |  |  | 100 | 25.00 | 21.25 | 3.75 |  |
| TSP Area |  |  |  |  |  |  |  |  |
| Gerbera | Ha . | 1.0000 | 0.5000 | 50 | 25.00 | 21.25 | 3.75 |  |
| Sub Total |  |  |  | 50 | 25.00 | 21.25 | 3.75 |  |
| Sub Total (Cut Flowers) |  |  |  | 150 | 50.00 | 42.50 | 7.50 |  |
| ii) Bulbulous flowers [ $40 \%$ of the cost for S\&M farmers and $25 \%$ of cost to other category farmers in general areas, $50 \%$ of cost in TSP areas, ] |  |  |  |  |  |  |  |  |
| General Area |  |  |  |  |  |  |  |  |
| Other Category Farmers |  |  |  |  |  |  |  |  |
| Rajnigandha | Ha . | 1.5000 | 0.3750 | 75 | 28.13 | 23.91 | 4.22 |  |
| Gladiolus | Ha . | 1.5000 | 0.3750 | 150 | 56.25 | 47.81 | 8.44 |  |
| Sub Total |  |  |  | 225 | 84.38 | 71.72 | 12.66 |  |
| TSP Area |  |  |  |  |  |  |  |  |
| Rajnigandha | Ha . | 1.5000 | 0.7500 | 20 | 15.00 | 12.75 | 2.25 |  |
| Gladiolus | Ha . | 1.5000 | 0.7500 | 60 | 45.00 | 38.25 | 6.75 |  |
| Sub Total |  |  |  | 80 | 60.00 | 51.00 | 9.00 |  |
| Sub Total (Bulbulous Flowers) |  |  |  | 305 | 144.38 | 122.72 | 21.66 |  |
| iii) Loose Flowers ( $40 \%$ of the cost for S\&M farmers and $25 \%$ of cost to other category farmers in general areas, $50 \%$ of cost in TSP areas, ] |  |  |  |  |  |  |  |  |
| General Area |  |  |  |  |  |  |  |  |
| Small \& Marginal Farmers |  |  |  |  |  |  |  |  |
| Marigold | Ha . | 0.4000 | 0.1600 | 500 | 80.00 | 68.00 | 12.00 |  |
| TSP Area |  |  |  |  |  |  |  |  |
| Small \& Marginal Farmers |  |  |  |  |  |  |  |  |
| Marigold | Ha . | 0.4000 | 0.2000 | 100 | 20.00 | 17.00 | 3.00 |  |
| Sub Total |  |  |  | 600 | 100.00 | 85.00 | 15.00 |  |
| Total (Flowers) |  |  |  | 1055 | 294.38 | 250.22 | 44.16 |  |
| V. Spices ( For a maximum area of 4 ha per beneficiary) |  |  |  |  |  |  |  |  |


| i) Seed spice and Rhizomatic spices [Maximum of Rs. 12,000/- per ha. (40\% of cost) for meeting the expenditure on planting material and cost of material for INM/IPM etc).] | Ha. | 0.3000 | 0.1200 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chilli | Ha. | 0.3000 | 0.1200 | 900 | 108.00 | 91.80 | 16.20 |  |
| Turmeric | Ha . | 0.3000 | 0.1200 | 800 | 96.00 | 81.60 | 14.40 |  |
| Ginger | Ha. | 0.3000 | 0.1200 | 400 | 48.00 | 40.80 | 7.20 |  |
| Sub Total |  |  |  | 2100 | 252.00 | 214.20 | 37.80 |  |
| ii) Perennial spices (black pepper, cinnamon, clove and nutmeg) [Maximum of Rs. 20,000/- per ha (@40\% of cost) for meeting the expenditure on planting material and cost of material for INM/IPM etc. In the case of TSP areas, assistance will be @ $50 \%$ of cost.] | Ha. | 0.5000 | 0.2000 |  |  |  |  |  |
| TSP Area |  |  |  |  |  |  |  |  |
| a) Tejpatta | Ha. | 0.5000 | 0.2500 |  | 0.00 | 0.00 | 0.00 |  |
| b) Dalchini | На. | 0.5000 | 0.2500 |  | 0.00 | 0.00 | 0.00 |  |
| c) Black Pepper | Ha. | 0.5000 | 0.2500 | 75 | 18.75 | 15.94 | 2.81 |  |
| Sub Total |  |  |  | 75 | 18.75 | 15.94 | 2.81 |  |
| Total (Spices) |  |  |  | 2175 | 270.75 | 230.14 | 40.61 |  |
| VI. Plantation crops (For a maximum area of 4 ha per beneficiary) |  |  |  |  |  |  |  |  |
| i) Cashew and Cocoa |  |  |  |  |  |  |  |  |
| a) Without integration [Rs. 0.20 lakh per ha ( $40 \%$ of cost) for meeting the expenditure on planting material and cost of material for INM/IPM in 3 installments of 60:20:20 subject to survival rate of $75 \%$ in second year and $90 \%$ in third year for a maximum area of 4 ha per beneficiary. In the case of NE and Himalayan States, TSP areas, Andaman \& Nicobar and Lakshadweep Islands assistance will be @ $50 \%$ of cost in 3 instalments.] | Ha. | 0.5000 | 0.2000 |  |  |  |  |  |
| a) Tea | Ha. | 0.5000 | 0.1200 | 0 | 0.00 | 0.00 | 0.00 |  |
| b) Coffee | Ha. | 0.5000 | 0.1200 | 0 | 0.00 | 0.00 | 0.00 |  |
| c) Cocoa | Ha. | 0.5000 | 0.1200 | 0 | 0.00 | 0.00 | 0.00 |  |


|  | d) Bettle vine | На. | 0.5000 | 0.1200 | 100 | 12.00 | 10.20 | 1.80 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sub Total |  |  |  | 100 | 12.00 | 10.20 | 1.80 |  |
|  | Cashew |  |  |  |  |  |  |  |  |
|  | -2nd Year 20\% | Ha . | 0.200 | 0.040 | 4000 | 160.00 | 136.00 | 24.00 |  |
|  | -3rd Year 20\% | Ha. | 0.200 | 0.040 | 1500 | 60.00 | 51.00 | 9.00 |  |
|  | Sub Total (Cashew) |  |  |  | 5500 | 220.00 | 187.00 | 33.00 |  |
|  | Sub Total (Plantation Crops) |  |  |  |  | 232.00 | 197.20 | 34.80 |  |
|  | Total (B. 2) |  |  |  |  | 2784.04 | 2366.43 | 417.61 |  |
| B.3. | Rejuvenation / replacement of senile plantation, canopy management [50\% of the total cost subject to a maximum of Rs. 20,000/ha limited to two ha per beneficiary.] | Ha. | 0.4000 | 0.2000 | 0 | 0.00 | 0.00 | 0.00 |  |
| B.4. | Creation of Water resources |  |  |  |  |  |  |  |  |
|  | i) Community tanks/on farm ponds/on farm water reservoirs with use of plastic/RCC lining [100\% of cost to irrigate 10 ha of command area, with either use of minimum 300 micron plastic films or RCC lining, owned \& managed by a communityl farmer group. Cost for non-lined ponds/tanks (only in black cotton soils) will be $30 \%$ less. Assistance will be restricted to the cost of plastic/RCC lining. However, for non MNREGS beneficiaries, assistance on entire cost including construction of pond/tank as well as lining can be availed under the scheme.] |  |  |  |  |  |  |  |  |
|  | Plain Areas | Unit | 20.0000 | 20.0000 | 10 | 200.00 | 170.00 | 30.00 |  |
|  | Hilly Areas | Unit | 25.0000 | 25.0000 | 10 | 250.00 | 212.50 | 37.50 |  |
|  | Sub Total |  |  |  | 20 | 450.00 | 382.50 | 67.50 |  |
|  | ii) Water harvesting system for individuals-for storage of water in 20 mx 20 mx 3 m ponds/wells @ Rs.100/-cum, [ $50 \%$ of cost including plastic/RCC lining. Cost for nonlined ponds/tanks (only in black cotton soils) will be $30 \%$ less. For smaller size of the ponds/dug wells, cost will be admissible on pro rata basis depending upon the command area. Maintenance will be ensured by the |  |  |  |  |  |  |  |  |


|  | beneficiary.] |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plain Areas | Unit | 1.5000 | 0.7500 | 155 | 116.25 | 98.81 | 17.44 |  |
|  | Hilly Areas | Unit | 1.8000 | 0.9000 | 80 | 72.00 | 61.20 | 10.80 |  |
|  | Sub Total |  |  |  | 235 | 188.25 | 160.01 | 28.24 |  |
|  | Total (B. 4) |  |  |  | 255 | 638.25 | 542.51 | 95.74 |  |
| B. 5 | Protected cultivation |  |  |  |  |  |  |  |  |
|  | 1. Green House structure |  |  |  |  |  |  |  |  |
|  | (a) Fan \& Pad system [50\% of cost for a maximum area of 4000 sq. $m$ per beneficiary.] |  |  |  |  |  |  |  |  |
|  | Up to Area 500 Sqm | Sqm | 0.0165 | 0.0083 | 4000 | 33.00 | 28.05 | 4.95 |  |
|  | Sub Total |  |  |  | 4000 | 33.00 | 28.05 | 4.95 |  |
|  | (b)Naturally ventilated system |  |  |  |  |  |  |  |  |
|  | i) Tubular structure [50\% of the cost limited to 5 units (each unit not to exceed 800 Sq. m per beneficiary).] |  |  |  |  |  |  |  |  |
|  | Up to Area 500 Sqm | Sqm | 0.0106 | 0.0053 | 50000 | 265.00 | 225.25 | 39.75 |  |
|  | 2. Shade Net House    5000 265.00 225.25 39.75 |  |  |  |  |  |  |  |  |
|  2. Shade Net House <br> (a) Tubular structure [50\% of <br> cost limited to 4000 Sq. m. per <br> beneficiary.]  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | General Area <br> Hilly Areas | Sqm | 0.00710 | 0.00355 | 784027 | 2783.30 | 2365.80 | 417.49 |  |
|  |  | Sqm | 0.00816 | 0.00408 | 50000 | 204.00 | 173.40 | 30.60 |  |
|  | Sub Total |  |  |  | 834027 | 2987.30 | 2539.20 | 448.09 |  |
|  | 3. Plastic Tunnels [ $50 \%$ of cost limited 1000 sq. m per beneficiary.] |  |  |  |  |  |  |  |  |
|  | General Area | Sqm | 0.00060 | 0.00030 | 5000 | 1.50 | 1.28 | 0.23 |  |
|  | Hilly Areas <br> Sub Total | Sqm | 0.00075 | 0.00038 | 3500 | 1.31 | 1.12 | 0.20 |  |
|  |  |  |  |  | 8500 | 2.81 | 2.39 | 0.42 |  |
|  | 5. Cost of planting material of high value vegetables grown in poly house [ $50 \%$ of cost limited to 4000 Sq.m per beneficiary.] | Sqm | 0.00140 | 0.00070 | 707129 | 494.99 | 420.74 | 74.25 |  |
|  | 6. Plastic Mulching [50\% of the total cost limited to 2 ha per beneficiary.] |  |  |  |  |  |  |  |  |
|  | General Area | Ha. | 0.3200 | 0.1600 | 6994 | 1119.00 | 951.15 | 167.85 |  |
|  | Hilly Areas | Ha. | 0.3680 | 0.1840 | 2068 | 380.51 | 323.44 | 57.08 |  |
|  | Sub Total |  |  |  | 9062 | 1499.51 | 1274.59 | 224.93 |  |
|  | Total (B.5) |  |  |  | 1612718 | 5282.61 | 4490.22 | 792.39 |  |



|  | operation also.] |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B. 11 | Pollination support through beekeeping |  |  |  |  |  |  |  |  |
|  | i) Production of nucleus stock (Public sector) [100\% of the cost.] | Unit | 20.0000 | 20.00 | 1 | 20.00 | 17.00 | 3.00 |  |
|  | ii) Production of bee colonies by bee breeder [40\% of cost for producing min. of 2000 colonies / year] | Unit | 10.0000 | 4.00 | 1 | 4.00 | 3.40 | 0.60 |  |
|  | iii) Honey bee colony (Rs.2000/colony of 8 frames) [ $40 \%$ of cost limited to 50 colonies / beneficiary.] | $\begin{gathered} 8 \\ \text { frame } \end{gathered}$ | 0.0200 | 0.0080 | 4000 | 32.00 | 27.20 | 4.80 |  |
|  | iv) Bee Hives [40\% of cost limited to 50 colonies $/$ beneficiary.] | Nos. | 0.0200 | 0.0080 | 4000 | 32.00 | 27.20 | 4.80 |  |
|  | v) Equipment including honey extractor (4 frame), food grade container ( 30 kg ), net, including complete set of Bee keeping requipment. [ $40 \%$ of the cost limited to one set per beneficiary.] | Set | 0.2000 | 0.0800 | 800 | 64.00 | 54.40 | 9.60 |  |
|  | Total (B.11) |  |  |  | 8802 | 152.00 | 129.20 | 22.80 |  |
| $\begin{aligned} & \hline \text { B. } \\ & 12 \end{aligned}$ | Horticulture Mechanization |  |  |  |  |  |  |  |  |
|  | i) Power Tiller (Below 8 BHP) Power / hydraulic operated machines/tools. [40\% of cost limited to one set per beneficiary.] | Set | 1.0000 | 0.4000 | 200 | 80.00 | 68.00 | 12.00 |  |
|  | ii) Tractor (upto 20 BHP ) including small farm tractor with rotavator / equipments [40\% of cost limited to one set per beneficiary.] | Set | 3.0000 | 1.0000 | 480 | 480.00 | 408.00 | 72.00 |  |
|  | Total (B.12) |  |  |  | 680 | 560.00 | 476.00 | 84.00 |  |
| B. 13 | Technology Dissemination through demonstration/ front line demonstration [75 \% of cost in farmers field and $100 \%$ of cost in farms belonging to Public Sector, SAUs etc. No change] |  |  |  |  |  |  |  |  |
|  | Public Sector | Unit | 25.00 | 25.0000 | 8 | 200.00 | 170.00 | 30.00 |  |
|  | Total (B.13) |  |  |  | 8 | 200.00 | 170.00 | 30.00 |  |
| B. 14 | Human Resource Development (HRD) |  |  |  |  |  |  |  |  |
|  | i)Special Training for Protected Cultivation (Rs 1000/day per farmer including transport)[100\% of the cost.\} 3 days | Nos. | 0.0300 | 0.0300 |  | 0.00 | 0.00 | 0.00 |  |
|  | ii)Training of farmers |  |  |  |  |  |  |  |  |


|  | a) Within the State (Rs 1000/day per farmer including transport)( $100 \%$ of the cost.\} 3 days | Nos. | 0.0300 | 0.0300 | 5300 | 159.00 | 135.15 | 23.85 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | b)Outside the state ( Project based as per actual.) [ $100 \%$ of the cost. 77 days | Nos. | 0.0700 | 0.0700 | 300 | 21.00 | 17.85 | 3.15 |  |
|  | iii) Exposure visit of farmers |  |  |  |  |  |  |  |  |
|  | a) Within the state |  |  |  |  |  |  |  |  |
|  | b)Outside the state (Project based as per actual.) [ $100 \%$ of the cost.] 7 days | Nos. | 0.0700 | 0.0700 | 300 | 21.00 | 17.85 | 3.15 |  |
|  | c) Outside India [Project Based. $100 \%$ of air/rail travel. Course fee cost to be funded under Mission Management.] | Nos. | 4.0000 | 4.0000 | 0 | 0.00 | 0.00 | 0.00 |  |
|  | iv) Training / study tour of technical staff/ field functionaries |  |  |  |  |  |  |  |  |
|  | a) Within the State (Rs.300/day per participant plus TA/DA, as admissible) [ $100 \%$ of the cost.] | Nos. | 0.0030 | 0.0030 | 50 | 0.15 | 0.13 | 0.02 |  |
|  | b) Study tour to progressive States/units (group of minimum 5 participants) [Rs.800/day per participant plus TA/DA, as admissible] [ $100 \%$ of the cost.] | Nos. | 0.0080 | 0.0080 | 50 | 0.40 | 0.34 | 0.06 |  |
|  | c) Outside India [100\% of air/rail travel and course fee cost to be funded under Mission Management.] | Nos. | 6.0000 | 6.0000 | 0 | 0.00 | 0.00 | 0.00 |  |
|  | Total (B.14) |  |  |  | 6000 | 201.55 | 171.32 | 30.23 |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Total (B) |  |  |  |  | 11001.32 | 9351.12 | 1650.20 |  |
| C. | Integrated Post Harvest Management |  |  |  |  |  |  |  |  |
| C. 1 | Pack house (size of 9Mx6M) [ $50 \%$ of the capital cost.] | Unit | 4.00 | 2.0000 | 595 | 1190.00 | 1011.50 | 178.50 |  |
| C. 2 | Cold Storage (Construction, Expansion and Modernisation) |  |  |  |  |  |  |  |  |
|  | i)Cold storage units Type 1basic type with single temperature zone [Credit linked back-ended subsidy @ $35 \%$ of the cost of project in general areas and $50 \%$ of cost in case Hilly \& Scheduled areas for individual entrepreneurs.] |  |  |  |  |  |  |  |  |
|  | General Area | Unit | 400.00 | 140.0000 | 3 | 420.00 | 357.00 | 63.00 |  |
|  | Hilly \& Scheduled Areas | Unit | 400.00 | 200.0000 | 1 | 200.00 | 170.00 | 30.00 |  |
|  | Sub Total |  |  |  | 4 | 620.00 | 527.00 | 93.00 |  |


| C. 3 | Evaporative / low energy cool chamber (8 MT) [50\% of the total cost.] | Unit | 5.0000 | 2.5000 | 0 | 0.00 | 0.00 | 0.00 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C. 4 | Preservation unit (low cost) [ $50 \%$ of the total cost.] |  |  |  |  |  |  |  |  |
|  | New Unit | Unit | 2.0000 | 1.0000 | 285 | 285.00 | 242.25 | 42.75 |  |
| C. 5 | Low cost onion storage structure ( 25 MT ) [ $50 \%$ of the total cost.] | Unit | 1.7500 | 0.8750 | 100 | 87.50 | 74.38 | 13.13 |  |
|  | Total (C) |  |  |  | 984 | 2182.50 | 1855.13 | 327.38 |  |
| D. | Establishment of Marketing Infrastructure for horticultural produce in Govt./Private/ Cooperative sector |  |  |  |  |  |  |  |  |
| 1 | Rural Markets/Apni mandies/Direct markets [Credit linked back-ended subsidy @ $40 \%$ of the capital cost of project in general areas and $55 \%$ in case of Hilly \& Scheduled areas for individual entrepreneurs.] |  |  |  |  |  |  |  |  |
|  | General Area | Unit | 25.0000 | 10.0000 | 0 | 0.00 | 0.00 | 0.00 |  |
|  | Sut Total |  |  |  | 0 | 0.00 | 0.00 | 0.00 |  |
| 2 | Retail Markets / outlets (environmentally controlled) [Credit linked back-ended subsidy @ $35 \%$ of the capital cost of project in general areas and 50\% in case of Hilly \& Scheduled areas for individual entrepreneurs.] |  |  |  |  |  |  |  |  |
|  | General Area | Unit | 15.0000 | 5.2500 | 2 | 10.50 | 8.93 | 1.58 |  |
|  | Sut Total |  |  |  | 2 | 10.50 | 8.93 | 1.58 |  |
|  | Total (D) |  |  |  | 2 | 10.50 | 8.93 | 1.58 |  |
| E. | Food processing |  |  |  |  |  |  |  |  |
| 1 | Small Food Processing Unit | PB | 25.0000 | 12.5000 | 0 | 0.00 | 0.00 | 0.00 |  |
|  | Sub Total (F) |  |  |  | 0 | 0.00 | 0.00 | 0.00 |  |
|  |  |  |  |  |  |  |  |  |  |
| F. | Special Interventions |  |  |  |  |  |  |  |  |
| 1 | Tackling of emergent /unforeseen requirements of SHMs (Rs. 20.00 lakh) [50\% of cost, based on project proposal.] | PB | 20.0000 | 10.0000 | 0 | 0.00 | 0.00 | 0.00 |  |
|  | Sub Total (F) |  |  |  | 0 | 0.00 | 0.00 | 0.00 |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Total Project Cost |  |  |  |  | 13194.32 | 11215.17 | 1979.15 |  |
|  |  |  |  |  |  |  |  |  |  |


| G. | Mission Management |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| G. 1 | State \& Districts Mission Offices <br> and implementing agencies for <br> administrative expenses, <br> project, preparation, <br> computerization, contingency etc. <br> (5\% of total annual <br> expenditure on the basis of <br> appraised needs to State <br> Horticulture Mission (SHM)/ <br> impementing Agencies) [100\% <br> assistance.] |  |  |  |  |  |  |


| G. 8 | Baseline survey and <br> Strengthening horticultural <br> statistical data base (Rs. 100.00 <br> lakh for large states, Rs. 50.00 <br> lakh for small states and Rs. <br> 25.00 lakh for very small states/ <br> UTs.) [100\% of cost as one time <br> grant on survey related activities.] |  |  |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Sub Total (G) |  | 50.00 | 50.00 | 1 | 50.00 | 42.50 | 7.50 |  |
|  |  |  |  |  |  |  |  |  |
|  | Grand Total |  |  |  |  |  |  |  |

## Planting Material Sub Plan : 2014-15

| $\begin{aligned} & \text { Sl. } \\ & \text { No. } \end{aligned}$ | Programme | Physical Target | Seed/ Plant/ Bulb rate per ha. | Unit | Total Requirement of Plants/Seeds /Bulbs | Availability from own sources | Procurement from other sources | Name of agnecy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| I. | Fruits - |  |  |  |  |  |  |  |
|  | a)Strawberi | 25 | 45000 | Nos | 1125000 |  | 1125000 | CG Seed Corporation |
|  | b) Banana (TC) | 1050 | 2500 | Nos | 2625000 |  | 2625000 |  |
|  | c) Papaya | 350 | 2777 | Nos | 971950 |  | 971950 |  |
|  | d) Mango (Grafted) | 0 | 100 | Nos | 0 | 100000 | -100000 |  |
|  | e) Pear | 25 | 400 | Nos | 10000 |  | 10000 |  |
|  | f) Litchi (Gooti) | 50 | 150 | Nos | 7500 | 7500 | 0 |  |
|  | g) Pomegranate | 100 | 400 | Nos | 40000 |  | 40000 |  |
| II. | Flowers |  |  |  |  |  |  |  |
|  | 1) Rose | 50 | 2100 | Nos | 105000 |  | 105000 | CG Seed Corporation |
|  | 2) Gerbera | 100 | 2100 | Nos | 210000 |  | 210000 |  |
|  | 3) Rajnigandha | 125 | 56962 | Nos | 7120250 |  | 7120250 |  |
|  | 3) Gladiolus | 160 | 14285 | Nos | 2285600 |  | 2285600 |  |
|  | 4) Marigold | 600 | 95 | Pkt | 57000 |  | 57000 |  |
| III. | Spices |  |  |  |  |  |  |  |
|  | a) Chilli | 900 | 0.3 | Kg | 270 |  | 270 | CG Seed Corporation and Spices Board |
|  | b) Turmeric | 800 | 320 | Kg | 256000 |  | 256000 |  |
|  | b) Ginger | 400 | 320 | Kg | 128000 |  | 128000 |  |
|  | c) Tejpatta ( $2 \times 2 \mathrm{~m}$ ) | 25 | 2500 | Nos | 62500 |  | 62500 |  |
|  | d) Dalchini (1.2x0.9m) | 25 | 9260 | Nos | 231500 |  | 231500 |  |
|  | e) Black Pepper ( $2.5 \times 2.5 \mathrm{~m}$ ) | 25 | 1600 | Nos | 40000 |  | 40000 |  |
| IV. | Aromatic Plants |  |  |  |  |  |  |  |
|  | a) Lemongrass |  | 25000 | Nos | 0 |  | 0 | CG Seed Corporation |
|  | b) Alovera |  | 25000 | Nos | 0 |  | 0 |  |
|  | c) Vetiver |  | 31250 | Nos | 0 |  | 0 |  |

V.

| Plantation crops (Cashew) |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a) Tea $(1.5 \times 1 \mathrm{~m})$ | 25 | 6666 | Nos | 166650 |  | 166650 |  |
| b) Coffee $(2 \times 1.5 \mathrm{~m})$ | 25 | 3333 | Nos | 83325 |  | 83325 | Spices and <br> Spa Coard <br> c) Cocoa $(7.5 \times 7.5 \mathrm{~m})$ |
| d) Bettle Vine $(1.8 \times 0.45 \mathrm{~m})$ | 25 | 177 | Nos | 4425 |  | 4425 |  |

## Planting material available to meet requirement of area expansion during 2015-16

| SI. <br> No. | Programme | Physical Target | Seed/ <br> Plant/ <br> Bulb <br> rate <br> per <br> ha. | Unit | Total Requirement of Plants/Seeds /Bulbs | Availability from own sources | Procurement from other sources | Name of agnecy |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| I. | Fruits - |  |  |  |  |  |  |  |
|  | a)Strawberi | 25 | 45000 | Nos | 1125000 |  | 1125000 | CG Seed Corporation |
|  | b) Banana (TC) | 1000 | 2500 | Nos | 2500000 |  | 2500000 |  |
|  | c) Papaya | 500 | 2777 | Nos | 1388500 | 1388500 | 0 |  |
|  | e) Pear | 200 | 400 | Nos | 80000 | 80000 | 0 |  |
|  | f) Litchi (Gooti) | 200 | 150 | Nos | 30000 | 30000 | 0 |  |
|  | g) Pomegranet | 200 | 400 | Nos | 80000 | 80000 | 0 |  |
|  | e) Guava | 300 | 200 | Nos | 60000 | 60000 | 0 |  |
| II. | Vegetable |  |  |  |  |  |  |  |
|  | 1. Onion | 2000 | 5 | Kg | 10000 |  | 10000 |  |
|  | 2. Potato | 2000 | 2500 | Kg | 5000000 |  | 5000000 | CG Seed |
|  | 3. Tomato | 2000 | 0.30 | Kg | 600 |  | 600 |  |
| II. | Flowers |  |  |  |  |  |  |  |
|  | 1) Rose | 50 | 2100 | Nos | 105000 |  | 105000 |  |
|  | 2) Gladiolus | 1140 | 14285 | Nos | 16284900 |  | 16284900 | CG Seed <br> Corporation |
|  | 3) Marigold | 1100 | 95 | Pkt | 104500 |  | 104500 |  |
| III. | Spices |  |  |  |  |  |  |  |
|  | a) Chilli | 800 | 0.3 | Kg | 240 |  | 240 |  |
|  | b) Turmeric | 500 | 320 | Kg | 160000 |  | 160000 | Corporation |
|  | c) Ginger | 500 | 320 | Kg | 160000 |  | 160000 | and Spices |
|  | c) Corriander | 500 | 20 | Kg | 10000 |  | 10000 |  |
| V. | Plantation crops (Cashew) |  |  |  |  |  |  |  |
|  | Bettle  <br> $(1.8 \times 0.45 \mathrm{~m})$ Vine | 100 | 12345 | Nos | 1234500 |  | 1234500 |  |

Planting material procure to Governmental registered/accreditated Agencies and beneficiaries purchased to directly registered agencies.

## STATUS OF HORTICULTURE IN CHHATTISGARH

## Mission for Integrated Development of Horticulture (MIDH)

The Centrally Sponsored Scheme of National Horticulture Mission (NHM) is being implemented in Chhattisgarh since 2005-06. From April, 2014 onwards, NHM has been subsumed under Mission for Integrated Development of Horticulture (MIDH) for holistic growth of the horticulture sector covering fruits, vegetables, root and tuber crops, mushrooms, spices, flowers, aromatic plants and plantation crops.

## Implementation of National Horticulture Mission (NHM) in Chhattisgarh

The Centrally Sponsored Scheme of National Horticulture Mission (NHM) is being implemented in 19 districts viz. Surguja, Raigarh, Korba, Bilaspur, Kabirdham, Durg, Jagdalpur, Raipur, Rajanandgaon, Jaspur, Korea, Balodabazar, Gariaganj, Baloda, Bemetre, Mungeli, Balrampur, Surajpur and Kodagaon.

Major activities being undertaken in the programmed are production and distribution of planting material, vegetable seed production, are expansion, rejuvenation of old and senile orchards, creation of community water resources, protected cultivation, IPM/INM, organic farming, pollination support, development of post harvest management \& marketing infrastructure and human resource development.

## Progress till 2014-15

Salient physical progress till 2014-15 is as follows:-

- An additional area of 1.77 lakh ha of identified horticulture crops has been covered.
- 161 nurseries have been established for production of quality planting materials.
- An area of 4745 ha. has been covered under rejuvenation of old and senile orchards.
- Organic farming has been adopted in an area of 18147 ha for promotion of organic cultivation of horticultural crops.
- 3 IPM/INM infrastructure facilities such as Leaf tissue analysis labs, disease forecasting units have been created.
- An area of 249900 ha. has been covered under Protected Cultivation.
- Under Post Harvest Management, 28022 units including pack houses, cold storage units, refrigerated vans, primary/ mobile processing units,
ripening chambers, pre cooling units attach to cold storages and mobile pre cooling units) have been established.
- 111 market infrastructures have been set up.
- Under HRD component, 94473 farmers have been trained various horticulture activities.

An amount of Rs. 707.70 crore was released to the State till 2014-15 against which an expenditure of Rs. 703.06 crore was reported.

## Progress during 2014-15

- NHM activities have been subsumed under Mission for Integrated Development of Horticulture (MIDH) during XII Plan (w.e.f. 2014-15).
- An outlay of Rs. 142 crore including GOI share of Rs. 120.70 crore has been approved for the State to implement activities of NHM during 201415. Against this, an amount of Rs. 111.88 crore has been released. An expenditure of Rs. 117.95 crore has been reported.
- Out of Rs. 21.93 crore earmarked for PHM and Market during 2014-15, state has reported an expenditure of Rs. 18.04 crore (82.7\%).


## Programme during 2015-16

- An outlay of Rs. 160.00 crore including GOI share of Rs. 80.00 crore ( $50 \%$ of total outlay) has been earmarked for Chhattisgarh during 2015-16. Funds to the tune of Rs. 40.00 crore have been released during the current financial year.

Financial Progress: 2005-15

| Year | Total Outlay | Outlay (GOI) | Release | Expenditure |
| :--- | :--- | :--- | :--- | :--- |
| $2005-06$ | 50.29 | 50.29 | 23.68 | 3.42 |
| $2006-07$ | 111.92 | 111.92 | 55.00 | 47.33 |
| $2007-08$ | 154.12 | 131.01 | 62.52 | 30.26 |
| $2008-09$ | 126.46 | 107.49 | 30.00 | 73.51 |
| $2009-10$ | 82.24 | 69.90 | 60.00 | 66.88 |
| $2010-11$ | 115.00 | 97.75 | 96.57 | 83.42 |
| $2011-12$ | 110.00 | 93.50 | 85.23 | 98.16 |
| $2012-13$ | 125.00 | 106.25 | 91.56 | 83.74 |
| $2013-14$ | 135.00 | 114.75 | 91.26 | 118.02 |
| $2014-15$ | 142.00 | 120.70 | 111.88 | 117.95 |
| $2015-16$ | 160.00 | 80.00 | 40.00 |  |
| Total |  |  | $\mathbf{7 4 7 . 7 0}$ | $\mathbf{7 2 2 . 6 9}$ |

Chhattisgarh produces 7.52 m . MT of horticultural produce from an area of 0.66 m . ha and accounts for $2.7 \%$ of horticultural production in the country. Major share of production of horticulture produce is from vegetables (72.6\%) and fruits (25.6\%).

- During 2013-14, 0.04 lakh MT of vegetables have been traded in organized markets with average price of Rs. $14.69 / \mathrm{Kg}$.


## FRUITS

## Banana

- Among fruits, banana is the major crop involving a production of 0.45 MT from an area of 0.02 m ha. constituting about $25.8 \%$ of the total fruit production in the State.
- Production of banana is concentrated in the belts of Raipur, gariaband, Baloda Bazar, Mahasamund, Dhamatari, Durg, Rajanandgaon, Balod, Bematara, Kabirdham, Mungeli, Bilaspur, Janjgir-Champa, Raigarh, Sarguja, Korba, Balrampur, Surajpur, Koriya, Jashpur, Bastra, Kondagaon, Narayanpur, Dantewada, Sukma, Bijapur and Kanker.
- Recommended varieties of banana in the state are Dwarf Cavendish and Red Banana.


## Guava

- Chhattisgarh produces about $4.4 \%$ of the total production of guava in the country.
- Production guava in the State is 0.16 m MT from an area of 0.02 m ha with productivity of $8.4 \mathrm{MT} / \mathrm{ha}$.
- Production of guava is concentrated in Raipur, Gauriaband, Baloda Bazar, Mahasamjund, Dhamatri, Durg, Rajanandgaon, Balod, Bemetara, Kabirdham, Mungeli, Bilaspur, Janjgir-Champa, Raigarh, Surguja, Korba, Balrampur, Surajpur, Koriya, Jashpur, Jagdalpur, Kondafgaon, Naryanpur, Kanker, Dantewada, Sukma and Bijapur
- Recommended varieties of guava in the State are Sardar (I-49) Allahabad Safeda, Chittidar, Lalit and Shweta.


## Mango

- State produces about 0.03 m MT of mango from 0.06 m . ha. forming about $17.0 \%$ of total fruit production in the State.
- Raipur Gariaband, Mahasamund, Dhamtari, Durg, Rajanandgaon, Bahod, Bematara, Kabirdham, Mungeli, Bilaspur, Janjgir, Champa, Raigarh, Sarguja, Korba, Balrampur, surajpur, Koriya, Jashpur, Bastar(Jagdalpur),

Konda Gaon, Naryanpur, Dantewada, Sukma, Bijapur and Kanker are major mango growing belts in the State.

- Varieties recommended are Bombay Green, Dashehari, Fazli, Langra, Mallika and Amrapali.


## Papaya

- Chhattisgarh is the seventh largest producer of papaya in the country.
- State produces about $5.1 \%$ of total production of papaya in the Country. The production is 0.29 m . MT from an area of 0.01 m ha with productivity of $26.4 \mathrm{MT} / \mathrm{ha}$.
- Production of papaya is concentrated in belts of Raipur, Griaband, Baloda Bazar, Mahasamund, Dhamtari Durg, Rajanandgaon, Balod, Bemetara, Kabirdham, Mungeli, Bilaspur, Janjgir-Champa, Raigarh, Surguja, Korba, Balrampur, Surajpur, Koriya, Jashpur, Bastar, Kondagaon, Naryanpur, Dantewada, Sukma, Bijapur, Kanker
- Varieties of papaya viz Co-2, Coorg honey dew, Pink Flesh Sweet, Sunrise solo and Taiwan have been recommended for the State.


## VEGETABLES

## Brinjal

- Chhattisgarh accounts for $5.0 \%$ of total production of brinjal in the country and is producing about 0.59 m . MT of Brinjal from an area of about 0.03 m . ha with productivity of 17.7 t /ha.
- Major brinjal growing belts in the State are Raipur, Baloda Bazar, Bilaspur, Gariaband, Durg, Mahasamund, Janjgir-Chamba, Jagdalpur, Kabirdham, Raigarh, Sarguja, Kondagaon, Korba, Rajanandgaon, Dhamtari, Bemetera, Kanker, Mungeli, Jashpur, Balrampur and Koriya.
- Varieties of brinjal viz. Pusa-puple cluster, Hybrid-5, 6 , Kashi-Sandesh, Komal, Hissar-PH-4, BR-112, Shayamal and Pant Samrat have been recommended for the state.


## Cabbage

- Chhattisgarh accounts for $4.0 \%$ of total production of cabbage in the country and is producing 0.34 m MT of cabbage from an area of 0.02 m ha having productivity of $18.2 \mathrm{MT} / \mathrm{ha}$.
- Production of cabbage is concentrated in Gariaband, Balode Bazar, Mahasaumund, Dhamtari, Raipur, Durg, Balud, Bemetra, Jagdalpur, Kondagaon, Kanker, Bilaspur, Janjgir-chamba, Korba, Raigarh, Surguja, Surajpur, Korya and Balrampur
- Recommended varieties of cabbage in the State are Pusa-Ageti, Drum Head and Golden Acre.


## Cauliflower

- The State is producing about $5.0 \%$ of the total cauliflower production in the country.
- The production of cauliflower is about 0.40 m MT from an area of 0.02 m ha having productivity of $18.5 \mathrm{MT} /$ ha.
- Major cauliflower growing belts in the State are Baloda Bazar, Gariband, Mahasamund, Dhamtari, Durg, Balod, Bemetara, Kabirdham, Jagdalpur, Kondagaon, Kander, Raipur, Janjgir-Chamba, Bilaspur, Korba, Raigarh, Surguja, Koriya, Balrampur, Narayangarh and Rajanandgaon.
- The varieties viz Pusa- snowball K-1, KT-25, Himjyoti, and Hissar-1.


## Okra

- The State is contributing about $7.0 \%$ to the total production of okra in the country. It produces about 0.43 m MT of okra from an area of 0.03 m ha with productivity of $15.5 \mathrm{MT} / \mathrm{ha}$.
- The major okra producing belts in the State are Raipur, Durg, Rajanandgaon, Baloda Bazar Goriaband, Mahasamund, Dhamtari, Bemetara, Balod, Rajnandgaon, Kabirdham, Jagdalpur, Kondagaon, Kanker, Janjgir-chamba, Bilaspur, Mungeli, Korba, Raigarh, Surguja, Surajpur, Koriya, Balrampur and Naryanpur.
- Recommended varities of okra in the State are Pusa-sawati, A-4, Perkins Long Green, Arka Anamika, Varsha Uphar, Hissar-Unnat, Naveen and HBH-142.


## Tomato

- Chhattisgarh accounts for about $4.4 \%$ of total production of tomato in the country and produces about 0.81 m . MT of tomato from an area of about 0.05 m ha. The productivity of crop is $16.2 \mathrm{t} / \mathrm{ha}$.
- The major tomato producing belts in the State are Raipur, Durg, Bastar Baloda Bazar, Gariaband, Mahasamund, Balod, Dhamtari, Bemetara, Rajnandgaon, Janjgir-Champa, Kanker, Bilaspur, Mungali, Korba, Raigarh, Jaspur, Surguja, Surajpur, Balrampur, Koriya, Bijapur, Kabirdham, Dantewada, Sukma and Naryanpur.
- The varieties of tomato recommended for the State are Pusa-120, Ruby, Hybird-4, Arka-Ananaya, Abhijit, Vikas, Abha, Saurabh, Kashi-Vishesh, Hemant, HAU Hissar-HS101, 102 Lalit and Arun.


## Potato

- Chhattisgarh is producing about about 0.56 m . MT of potato from an area of about 0.04 m . ha with productivity of $14.0 \mathrm{t} / \mathrm{ha}$.
- Production of potato is concentrated in Raipur, Baloda Bazar, Gariaband, Mahasamund, Durg, Bemetara, Rajnandgaon, Bilaspur, Mungeli, JangirChampa, Korba, Raigarh, Jashpur, Surguja, Balrampur, Koriya, Dhamtarik and Jadalpur.
- Recommended varieties of potato in the State are Kufri-Chandramukhi, Jyoti Lauvkar, Badshah, Pukhraj, Surya, Himsona and Girdhari.
- During 2013-14, 0.02 m.MT of potato was traded in organized markets with average price of Rs. $8.00 / \mathrm{kg}$.


## FLOWERS

- With a production of 0.05 m MT, State contributes about $3.0 \%$ to the total production of loose flowers in the country.


## RAJNANDGAON (LWE) DISTRICT

## Introduction

The Rajnandgaon district is situated at Mumbai-Howrah national highway No.6. Rajnandgaon district formed on 26 January 1973 by separation from Durg district. Rajnandgaon is situated at a distance of 70 km away from the Raipur. Rajnandgaon situated in southeastern part of the Chhattisgarh state and lies at 19.57 N to 21.42 N latitude and from 80.23 to 81.31 E longitude with an altitude of 330.71 meter above the mean sea level.

Rajnandgaon surrounds the KAbirdham district in north, Kanker in south, Durg in east and Balaghat district of M.P. in west. The Rajnandgaon district is administratively divided in three sub-division along with 9 Block in which 696 gram panchayat and 1680 villages. The Rajnandgaon district has been emerged as an educational hub containing 15 Colleges, 208 high schools, 534 middle schools and 1895 primary school including professional Colleges like dental college, engineering college, Agriculture college, Horticulture college and many other sophisticated private public school.

## Rajanandgaon profile-

- Geographical area 8,02,252 ha. (5.82\% of the state).
- Net sown area $5,05,821$ ha. ( $63.05 \%$ of its geographical area).
- Total horticulture area during 2012-13 0.23102 lakh ha. ( $4.56 \%$ of its net sown area)
- Proposed horticulture area (after 5 years 2015-16)- 0.205 lakh ha. ( $4.69 \%$ of its net sown area).
- $60 \%$ soil is medium to light.
- Forest cover 2.59 lakh ha. ( $32.34 \%$ of its geographical area).
- Average rainfall 1274 mm .
- Farm families: 2.55 lakh ( $27 \%$ ST, $10 \%$ SC).
- 49.98 \% marginal farmers own 34.96 \% land.
- $25 \%$ small farmers own $35 \%$ land $74.98 \%$ Small/Marginal Farmers own 69.96\% land.
- $25.02 \%$ others own $30.04 \%$ land.
- Average land holding : 1.42 ha.
- Under fruits Mango is a major crop which occupies 2190 ha of the total cropped area of the fruits (4857 ha.) Under Spices Chili is major crop which occupies 1778 ha. Of the total cropped area of spices (3556 ha). Under vegetable Potato is major crop which occupies 2175 ha. Of the total cropped area of Vegetables (15984 ha.).
- Area under Rabi crops 1.50681 lakh ha. Which constitutes only $29 \%$ of the net sown area.
- Net irrigated area 0.88630 lakh ha. (17.52\%).
- Cropping intensity $218 \%$.


## Geography and Climate-

## Geographical Features-

The total geographical area and population of the district is 8.02 lakh ha. As per geography comes under Chhattisgarh plain area where as some part of the district is surrounded by hills. And $12,83,224$ respectively and it categories in General $8,14,112$, schedule caste 1,27424 , schedule tribe 3,41688 . The sex ratio Rajanandgaon is 1000:1023 and total farm families are 2,22,568. There are 70,832 ha area comes under irrigated out of $3,56,323$ ha. Total geographical area. The total iirigated area is near $19.7 \%$ canal is a major source of irrigation.

## Demographic features-

Total geographical area and population of the district is $8,02,252$ ha. And $12,83,224$ respectively and it categories in general $8,14,112$, schedule caste $1,27,424$, schedule tribe $3,41,688$. The sex ratio in Rajnandgaon in 1000:1023 and total farm families are 2,22,568.

## General climatic features-

The most favoured factor of Rajnandgaon district is climate. Climatic conditions are very idle for growing most of the horticulture crop. Maximum temperature is $44^{\circ} \mathrm{C}$ and the minimum temperature is $10-12^{\circ} \mathrm{C}$. Average temperature remains around $23^{\circ} 24^{\circ} \mathrm{C}$. Relative humidity is also high which is congenial for optimum growth and cultivation of horticultural fruit crops like Banana, Mango, Lime Guava, Papaya \& Custard apple and vegetables like Tomato, Bringal, Chilli, Bitter guard, Okra \& Kundru.

## Soil type-

Majority of the area has medium to deep with black soils. Soil PH is high. Soil type $70 \%$ is Dorsa and Kanhar. Out of total agriculture alnd $66 \%$ comes under low land suitable for paddy cultivation and $34 \%$ under upland can be diverted for cultivation of horticulture crops. Cropping intensity of the district is $135 \%$ at present.

As per operational land holding of the farmers, $75 \%$ of the farmers comes under marginal and small categories.

| Soil Types | Area in ha. |
| :---: | :---: |
| Bhata (Lateritic) | 15383 |
| Matasi (Sandy loam) | 80773 |
| Dorsa (Clay loam) | 115395 |
| Kanhar (Clay) | 153880 |
| Tikra (sandy) | 19234 |

## Present irrigation scenario-

In the district the net irrigation area is 86,961 ha. Which constitutes $19.9 \%$ of net sown are, most important source of irrigation being surface water where irrigation by Canals \& Tanks which constitutes $62 \%$ of the net irrigation area.

Source wise irrigation

| SI. No. | Source of irrigation | Area (in lac ha.) | \% age.) |
| :---: | :---: | :---: | :---: |
| 1. | Canals | 0.49 | 56.38 |
| 2. | Tanks | 0.049 | 5.63 |
| 3. | Tubel-wells | 0.28 | 32.22 |
| 4. | Wells | 0.029 | 3.33 |
| 5. | Other Sources | 0.018 | 2.07 |
| Total- |  |  |  |

Rajnandgaon is the district without power deficit, with the launching of new schemes such as National Horticulture Mission, the harnessing of the surface and sub-surface water resources is possible by strengthening the existing irrigation infrastructure.

## Present Status of Horticulture in the District-

In Rajanandgaon agriculture play important role in district economy as more than 2 lakh farmer families engaged in agriculture and allied activities, paddy is the kharif crop with above $90 \%$ of the totral kharif area, soyabean, maize, arhar is other important crops in kharif whereas gram wheat, sunflower is important in rabi season.

On the horticulture crops fruits like Bana, Mango, Lime, Guava, Papaya, cutard apple and vegetables like Tomato, Brinjal, chilli, Bitter guard, Okra, are important crtops cultivated by farmers.

## Fruits crops-

The major fruit crops grown in Rajnandgaon are Mango, Guava, Lime, etc., apart from these major fruit crops minor fruits like Jack fruit, Sitafal, Ber, Anola etc., are also grown both as cultivated and wild crop.

The total area of the fruit crops in the district is 5555 Ha . Along with the production 50309.20 MT in the year 2014-15.

## Vegetable-

Mostly all vegetable crops like Solaneious crops, Beans, Cole crops Cucur bitecious Crops etc are grown very well in the district. The Total area of vegetable crops in the Rajnandgaon was recotded 15143 ha. In the year 2014-15 with the production of 226252.8 MT.

## Spices-

Chilli, Ginger, Turmeric, Coriander are the major spices grown in the district. The total area of spices recorded in year 2014-15 was 3485 ha. With the production of 21723.50 MT.

## Flowers-

Area under flower cultivation is negligible in the district. With the formation of new state the demand of flowers is increasing day-by-day, to meet out the growing demand of flowers it is essential to promote commercial floriculture among the farmers. The major flowers like Marry-gold, Tuberose, Roses, Gladiolus etc., can be grown very well without much care. The present area under floriculture in the district is 93 ha. with the production of 558 MT. approximately in the year 2014-15.

## Aromatic \& Medicinal Plants-

The medicinal crops grown in the district for found are wild in minor. Some aromatic crops like E.citridora are promoted by the department for commercial cultivation among farmers. The present area under Aromatic \& medicinal plants in the district is 7 ha. with the production of 28.90 . MT. approximately in the year 2014-15.

## Area, Production \& Productivity of the Crop-

| SI. <br> No. | Crops | 2004-05 |  |  |  | 2014-15 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Area <br> (Ha.) | Production <br> (Ton.) | Productivity | Area <br> (Ha.) | Production <br> (Ton.) | Productivity |  |  |
| 1 | Fruits | 826.71 | 5817.37 | 7.04 | 5555 | 50309.20 | 9.06 |  |
| 2 | Vegetables | 5454.86 | 54803.13 | 10.05 | 15143 | 226252.8 | 14.94 |  |
| 3 | Spices | 919 | 458 | 0.50 | 3485 | 21723.50 | 6.23 |  |
| 4. | Flowers | 3.3 | 9.9 | 3.00 | 93 | 558.00 | 6.00 |  |
| 5. | Medicinal <br> \& Aromatic | 6 | 3 | 0.5 | 7 | 28.90 | 4.13 |  |
| Total |  |  |  |  |  |  |  |  |

JIT visited Durg / Rajnandgaon

| $\begin{aligned} & \text { S. } \\ & \text { No. } \end{aligned}$ | Name of the Beneficiary | Address | Crop / Component | Year of Plantation / Start | Area in Ha./ <br> Unit | Total unit planted | Survival as on date /status | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | R. Yadav | Janjagiri, Khumari, Durg | AEP of vegetables with drip | 2015-16 | 20.0 | - | - | - Pseudomonas is more near bamboo root as informed by grower. Needs confirmation. <br> - Vegetable crops were very good. |
| 2. | Shard Chandra Agrawal | Pulgaon, Durg | AEP of mango \& Guava with drip | $\begin{array}{\|l\|} \hline 2014-15 \\ 2015-16 \end{array}$ | 2ha | - | - | - Planted VNR and other cvs of guava <br> - Planted 4000 Litchi plants of own. |
| 3. | Manjeet Singh Salooja | Rajnand gaon | Retail outlet for vegetable \& fruits, Power operated sprayer cum tractor. | 2015-16 |  |  |  | - Rs. 5.25 lakh sanctioned yet to be given. <br> - Pack house is also needed to be provided as discussed. |
| 4. | Govt. Horticulture | Pendry, Rajnandgaon | Plug type Automatic | $\begin{aligned} & \hline 2014-15 \\ & (1582) \\ & \hline \end{aligned}$ | 11.0 | - | - | - One star rating given by |

$\left.\begin{array}{|l|l|l|l|l|l|l|}\hline \text { Nursery } & & & \begin{array}{l}\text { machine } \\ \text { (RKVY) }\end{array} & & \begin{array}{c}\text { NHB. } \\ \bullet \text { Plug type seedling } \\ \text { machine producing 25- } \\ 30 \text { lakhs seedling per } \\ \text { year. }\end{array} \\ \bullet \text { Total cost is } 4.5 \text { lakh \& } \\ \text { others items. } \\ \bullet \text { Total mother plants are } \\ 308 .\end{array}\right]$

## DHAMATARI DISTRICT

## Geographical Features-

Dhamtari district is located between the latitude 20-20' N to 49 North and longitude 80-33 to 81-57 East. It elevation is 321.54 meter from mean sea level. If is in the South Eastern part of Chhattisgarh and surrounded by the district Raipur, Durg and Kanker the Head Quarter of the district is located at Dhamtari, which is about 78 km . from the capital of the State i.e. Raipur and is well connected by road and rail as well. The total geographical area of the district is 4.08 lakh ha. Out of which 212550 ha. (About $52 \%$ ) is under forest. Hence, the district is rich in paddy population in district. The main rivers "Mahanadi" flow through the district starts from Shihawa Pahad.

## Climate

The Climate at the district is monsoon type the May month is hottest the December is the coolest once. The south-west monsoon is rainy season start form mid June till the end of September. The average rainfall is 1374.70 mm .

## Demographic characteristics-

Dhamtari has total population 703569 consisting of 49.88 percent male and 50.12 percent female populations. The entire district is covered under the tribal sub-plan, around $26.59 \%$ population is Schedule Tribes.

## General climatic features-

Dhamtari district fall under hot temperate climate of the Chhattisgarh plains agro climatic zone and hence, the district experiences very hot and dry summer. Summer season starts form April to mid June. Due to South-West monsoon, the rainy season starts from mid June till the end of September. The average rain fall of the district is 1374.70 mm , rainfall is highest during July \& August and progressively recedes until September.

## Soil type-

Soil -Broadly the soil structure and the texture in the district is

1. Black soils (Kanhar type) $=71 \%$
2. Red soils (Bhata type) $=20 \%$
3. Sandy soil (Dorsa Type) = 06\%
4. Samdi loam = 03\%

The district is predominating by enceptisol and amphibole soil type which is acidic in nature and having more than the normal iron content in it.

## Agro climatic zones-

Agro-climatically, Dhamtari District is under Chhattisgarh plains.

## Horticulture Nurseries

There are 4 nurseries situated in 4 blocks, two nurseries are established during period of 1979-80 and one nursery was established in 2008-09. Under RKVY 2 nurseries up-gradation and modernization work has been taken up. One nursery is established in 2010-11 in Rakadih (Magarlod Block)

| S. <br> No. | Nurseries | Block | Area (ha.) | Establishment | Remark |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1. | Bendranawagaon | Dhamtari | 6.00 | $1979-1980$ | Established <br> by <br> Govt. |
| 2. | Semra | Nagri | 6.00 | $1979-1980$ | Established <br> by R.K.V.Y. |
| 3. | Bhatagaon | Kurud | 6.00 | $2008-2009$ |  |
| 4. | Rakadih | Magarlod | 6.00 | $2010-11$ | Established <br> by R.K.V.Y. |
| Total |  |  |  | $\mathbf{2 4 . 0 0}$ |  |

## Orchards-

Among 4 departmental nurseries the major fruit orchards are of Mango (6.5 ha.), Guava (2 ha.), Jack fruit, Cheeku, Lime (1.5 ha.).

| $\begin{aligned} & \hline \text { SI. } \\ & \text { No. } \end{aligned}$ | Nurseries | Block | No. of mother plants |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Mango | Guava | Lime | Total |
| 1. | Dhamtari | Bendrawagaon | 250 | 138 | 138 | 526 |
| 5 | Nagri | Semra | 200 | 277 | 138 | 615 |
| 3. | Kurud | Bhatagaon | 200 | 138 | 138 | 476 |
| 4. | Magarlod | Rakadih | 200 | 138 | 138 | 476 |
|  |  | Total | 850 | 691 | 552 | 2093 |

## Seed production farms:-

There is no specified seed production farm in Dhamtari district. In Bhatagaon nursery 2 ha. vacant land is available which may be used as seed production area for implementation of various vegetable seed production programs.

## JIT visited to Dhamtari District

| S. No. | Name of the Beneficiary | Address | Crop $/$ Component | Year of Plantation / Start | Area in Ha./ Unit | Total unit planted | Survival as on date /status | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | Ram Lal/ Sheetal | Shivni Kalan, Dhamtari | Banana \& pomegranate | 2014-15 | 1.63 | 448 | 448 | - Bacterial blight diseases observed at an initial stage and advised to spray fungicides. <br> - Banana had problem of sigatoka. <br> - Papaya inter crop was good but having PLCV disease. |
| 2. | Ram Lal Sahu | Bagoud/ <br> Banjari <br> Dhamtari | Evaporative cool chamber | 2013-14 | 20-30 Quintal (cap.) | - | - | - Project cost Rs. 4 lakh. <br> - Rs. 2 lac released as subsidy. <br> - No standard followed. |
| 3. | Guhari Ram | Bagoud Dhamtari | Ev. Cool chamber | 2013-14 | 30 Quintal cap. | - | - | - Project cost Rs. 4 lakh. <br> - Rs. 2 lac released as subsidy. |


|  |  |  |  |  |  |  |  | - No standard followed. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4. | Ratan Lal / Tulsi and other 18 nos | Kasawahi Dhamtari (RKVY) | AEP mango langra, Dashaheri, Bombay green, Banganpali etc. | 2012-13 | 15.00 | 1496 | 1445 | - Total subsidy availed Rs. 12.28 lakh from 2012-15. <br> - Termite and red rust problem to be corrected. <br> - Plants are maintained. |
| 5. | Tara Chandra Baranlal | Charmuria Kurud Dhamtari | AEP Banana mango | 2012-13 | 1.0 | - | - | - Maintained well. <br> - Spot noticed on leaves of mango and Banana. |
| 6. | Govt. Nursery | Bhata gaon, Dhamtari | RKVY | 2010-11 | 6.0 |  | - | mango, 2500 guava grafts prepared during 2014-15. <br> - Total income Nursery is 3.60 lakh during 2014-15 |

## KANKER DISTRICT (LWE)

Kanker is non NHM district. The MIS programme is only component funded under NHM in the district. Most of the components like AEP, water tank, vegetable production and Bamboo plantation are being funded by RKVY and Bamboo Mission.

JIT visited Kanker / Jagdalpur District

| S. <br> No. | Name of the Beneficiary | Address | Crop / Component | Year of Plantation / Start | Area in Ha./ Unit | Total unit planted | Survival <br> as on date /status | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Singar Bhat, Nursery | Kanker | Fruits/ flower (RKVY) | 1999 | 4.0 | Old plantation | - | - Nursery needs improvement. <br> - Staff is lacking <br> - Old plantation needs rejuvenation. |
| 2. | Somu Ram, Ganga Mi Ku and 5 beneficiaries (Adim Jan Jati) | Bhatagoda Darbha, Baster | Jamorsa inter cropped cashew (AEP) | 2013-14 | 25 | - | - | - Cashew crop is growing well. <br> - More target for tube well to be given in the district where farmers could able to take vegetables. |
| 3. | Sonu Ram | Maubli Bhata, Toka Ram, Baster | AEP of mango with Jamarasa inter cropped with urd. | 2012-13 | 2.0 | - | - | - Rs. 10,000-12000 per year earned from Jamarosa and 5000 per year from mango. <br> - Distillation unit visited and working, total cost of unit is Rs. 6 lakh, subsidy Rs. 3 lakh availed. |
| 4. | Govt. Nursery | Aashna Jagdalpur, | Fruit crops | 1990-91 | 4.0 | - | - | - Nursery is underutilized. |



## BASTER (JAGDALPUR) DISTRICT (LWE)

Geographically, Bastar district is comes to Bastar Plateau Zone Bastar is quite a large district with 12 development Blocks. This district has $8,755.79$ sq. k.m. area of revenue lands.

The Characteristic features of the district are described below. Bastar district is a North-East plateau zone, Bastar district lies between 17.46 North latitude and 80.15 to 82.01 East Longitude. Bastar district is surrounded by Orissa in East, Andhra Pradesh in South, Maharashtra in West and Madhya Pradesh in North. The altitude of the district varies from 566 meters to 647.44 meters above sea level.

## Demographic characteristics -

The total Population of the district is 1193650 and out of this, more than $90 \%$ live in rural areas. More than $80 \%$ of the people residing in this district are trible, $60 \%$ of them falling below poverty line. The representation of scheduled tribes is 70.26 \% and that of scheduled castes 1.88 \% in the district. District has more than $40 \%$ population are small and marginal farmer. That is the strength for future horticulture development programme.

## General climatic features -

The Climate of this district is hot sub-humid with hot summers and cool winters. The temperature range is 30.6 C in January to 41.1 C in May at maximum level and 4.4 C in December-January to 19.4 C in July. The rainfall pattern ranges from 1100 mm to 1600 mm with an average rainfall 1295 mm . More than $90 \%$ of rainfall is received in the months of June to September. Only $6.44 \%$ of the area is facilitated with irrigation. Another feature of the district is to get rains in at least once in a month. In the month of May and June highest temp does not go above 42 C such type of situation provide opportunity to grow off season vegetables, dry land fruit crops plantation can be without irrigation.

Soil type: Surface texture of soil varies from sandy clay to loamy sand whereas, sub-soil is loamy sand as obvious from the soil profile in the gullies and nala beds. In low lying areas, wide variation in soil texture with varying depth is due to deposition of transported materials through gullies and nalas. Soil is generally shallow at higher elevation and thick at lower elevations. The surface drainage is rapid as soil is located between nala and upland ridges, which form the yield with undulating topography.

The dominant soil slopes of the area are gentle to very gentle. Taxonomically Bastar Plateau zone valleys have alfisol. Vertisol and inceptisol, while uplands are entisol and alfisol. In general, soil are light to medium textured, non-calcareous, slightly to moderately acidic.

Agro- climate Zones: Bastar district is comes in Bastar plateau agro climatic zones

## Present Irrigation Scenario -

Major irrigation facilities are not available in the district. Perennial rivers, rain water harvesting tank, well, tube well are the major source of irrigation. Pattern of average rainfall per year in all the block is similar and average rainfall in bastar district is recorded 1295 mm annually. Rainfall is spread over all the 12 months and intensity is higher during the June to September.

## Present Status of Horticulture-

Bastar has often been dubbed rice bowl of C.G. with the main crop being Paddy. Apart from paddy, cereals like maize, kodo-kutki and other small millets, pulses like tur and kulthi and oilseeds like Groundnut, Niger and are also grown. Yet productivity is not very high. This brought a new thrust on the sector of Horticulture, as the region is also suitable for growing Cashew, Mango, Banana, Guava and other fruits and a variety of vegetables. Horticulture is growing popularity owing to the high value of horticulture produces than agriculture crops. However, there needs to be a greater impetus in boosting the irrigation resources
of the state and in promoting horticulture in intensive mode in the district. According to the old and existing data, a brief analysis is made on the status of Horticulture in the state which is furnished below. However, fresh efforts are being made to generate and compile statistical data through systematic data collection on Horticulture crops in the district.

Baster (Jagdalpur)

| S. No. | Name of the Beneficiary | Address | Crop $/$ Component | Year of Plantation / Start | Area in Ha./ Unit | Total unit plante d | Survival as on date /status | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | Rajendra Bandey | Chirai Padar Baster | AEP veg. Bittergourd (F1) | 2015-16 | 2.0 | - |  | - Crop was very good, viral problem, powdery mildew and downy mildew noticed and advised accordingly. <br> - Needs shednet for seedling raising. |
| 2. | Govt. Nursery | Kopabeda, Kondagan, Baster | Fruit crops \& flowers | 2014-15 | 5.0 | - | - | - Nursery is accredited by NHB and got one star rating. |
| 3. | Devendra Singh | Massora, Kondagaon, Baster | Evaporative cool chamber <br> \& Pack house | 2013-14 | - | - | - | - Two lakh subsidy availed for cool chamber. <br> - Infrastructure (cool chamber) needs modification as per MIDH guideline. <br> - Pack house structure was fully constructed |


|  |  |  |  |  |  |  |  | by tin, presently used for storing wheat straw. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4. | Prakash Day | $\begin{aligned} & \text { Borigaon (Vill. } \\ & \text { \& Panch.), } \\ & \text { Baster } \end{aligned}$ | Banana (G 9 \& Mango and Aonla (4 Nos) | $\begin{array}{\|l\|} \hline 2013-14 \\ 2012-13 \\ \hline \end{array}$ | 0.5 | - | - | - All crops were growing well except some problems in Aonla. |
| 5. | Lonigopal | Borigaon, Baster | AEP cashew nut | 2009-10 | 1.0 | - | - | - Crop is OK and started fruiting. |
| 6. | 15 <br> Beneficiaries (SC \& ST) | College of Agriculture \& Research Station Kumhrawand, Jagdalpur | Rejuvenation of cashew nut (NHM) | 2010-11 | 25.28 | - | - | - Cashew rejuvenation is being done by the beneficiaries under the supervision of Scientist. <br> - Root \& Stem borer is a serious problem, treatment of chloropyriphos mixed with mud slurry is pasted on stem and drenching is done beside application of DAP $+\quad$ vermin compost to the plants |


|  |  |  |  |  |  | around root zone. <br> Work is satisfactory. |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## DANTEWADA

## DISTRICT PROFILE OF DANTEWADA DISTRICT

- Normal rainfall 1556.90 mm
- Geographical area
- Forest area
- Agricultural land

904600 ha.

- Area not in use

32098 ha
126255.00

- Double crop area
98236.00
- Cultivable area
4204.00
- Area covered under horticultural 6396.00 105768.00 crops
- Horticultural crops percentage for 6.04

Year 2014-15

- Area covered
Fruit 2582.00

Vegetable 2966.00
Spices 640.00
Flower
208.00

Total
6396.00

- Irrigated area under kharif
- Irrigated area under Rabi
- Canal irrigation
- Pond irrigation
- Tube well Irrigation
- Well irrigation
- Others
1.52 ha
1.37 ha
180.00 ha
950.00 ha
1003.00 ha
187.00 ha
574.00
- Total
2894.00
- Farmers family

SC
ST
Other
Total

- Marginal

5907 Nos

- Small
- Big
- Total
- Number of village

Revenue village
212 Nos

Barron / Forest village
Total village

- Population

Male
Female
Total

- Electrification
- Tehsil
- Blocks
- Gram Panchayat
- Janpad Panchayat
- Nagar Nigam
- Nagar Palika
- Nagar Panchayat
- Bidhan Sabha Area
- Lok Sabha Area
- Rajya Sabha Area
- Literacy (AV)

Male
Female

- Distribution Kendra Cooperative Public Total
- Govt. Hort. Nursery
- Agri Engineering centre

15 Nos
227 Nos

124646 Nos
122383 Nos
247029 Nos
217 Nos
5 Nos
4 Nos
114 Nos
4 Nos
-
3
2
1
1
-
48.64 Percentage
20.98 Percentage

14 Nos
3 Nos
17 Nos
3 Nos
1 Nos

JIT visited Dantewada

| $\begin{aligned} & \text { S. } \\ & \text { No. } \end{aligned}$ | Name of the Beneficiary | Address | Crop $/$ Component | Year of Plantation / Start | Area in Ha./ Unit | Total unit planted | Survival as on date /status | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | Shukali Bai | Chita-Lanka, Danatewada (RKVY) | AEP mango (RKVY) | 2011-12 | 1.0 | - | - | - About 10-20 plants died and gap filling done. <br> - Other plants are good. |
| 2. | Gov. Nursery | Purantarai, Dantewada | All fruits mango, guava, coconut, litchi, chickoo, cashew | 2015-16 (27.12.1987) Total (2305 plants) | 12.1 | - | - | - Nursery is not fully utilized in spite of 6 mali's post filled. <br> - About Rs. 3 lakh revenue generated from nursery which is very less. |
| 3. | RKVY Integrated Deve Uojna (7 Nos beneficiaries) | Masheynar, Dantewada | Rejuvenation of cashew | 2012-13 | 10.0 | - | - | - Fencing, 3 tube well \& drip and 5 labour per day are given. |
| 4. | Shukali Bai | Chite lanka, Dantewada | AEP of Banana TC (G-9) with drip (RKVY) | 2015-16 | 1.64 | 3750 | 99\% | - Dried leaves to be removed. <br> - Sigatoka diseases observed, needs spray of fungicide. <br> - Amount paid Rs. 60,000/- upto March, 2015. |

## RAIPUR

Visited PFDC centre at Indira Gandhi Krishi Vishwavidyalaya, Raipur, met Dr. Sahu, PI,PFDC and discussed ongoing programame of the centre. A centre has developed a technique in which small bulbs of Rabi or summer onion has been used for giving the yield in August, month. With this technique, it is easy to control the soaring prices of onions, informed Principal Investigator of centre Dr. Ghanshyam Sahu. Also visited the Bio control lab where various types of Bio pesticides are being prepared.

## PHOTOGRAPHS

JIT Photographs


JIT Photographs


Ridge gourd cultivation with plastic mulching

