Report of the Joint Inspection Team on their inspection visit to (Durg, Bilashpur, Korba, Raigarh) Districts of Chhattisgarh during November, 2013 (25th Nov.-30th Nov., 2013).







National Horticulture Mission Department of Agriculture and Cooperation (DAC), Krishi Bhawan, New Delhi Report of the Joint Inspection Team on its visit to Durg, Bilaspur, Korba and Raigarh Districts of Chhattisgarh to review progress of National Horticulture Mission (NHM), Micro Irrigation Scheme, Rastriya Krishi Vikash Yojana and Vegetable Initiative Schemes during November 2013 (25th Nov.-30th Nov., 2013).

The Joint Inspection Team (JIT) comprising of the following members visited Chhattisgarh during 25th Nov.–30th Nov., 2013 to review the progress under the central and centrally sponsored particularly National Horticulture Mission (NHM), Micro Irrigation Scheme and Vegetable Initiative Schemes in the State.

- 1. Dr. R.C. Upadhyaya, Chief consultant (NHM), DAC, Krishi Bhawan, New Delhi.
- 2. Dr. Neeraj Shukla, Prof. Horticulture ,Indira Ghandhi Krishi Vishwavidalaya, Raipur
- 3. Dr G.Sahu, Asst.Proff. And i/c PFDC, Indira Ghandhi Krishi Vishwavidalaya, Raipur.
- 4. Dr .Anil Kumar Dubey, Joint Director (Hort.), Deptt. of Hort., Chhattisgarh as Nodal Officer

Components of NHM, RKVY, NMMI, and other programmes:

- Crop specific cluster at district level.
- Nurseries management and progress including accreditation of nurseries.
- Uvermin compost units under SHM.
- □Flowers and vegetable production under protected conditions.
- OMicro irrigation scheme and use of plastic in mulching, irrigation and precision farming.
- □Placement of technical Staff at Management and also at field Level.
- Other activities and KVK, s support including Financial Progress: (Rs. in lakhs).
- National Mission on Micro Irrigation (NMMI).
- National vegetable Initiative (NVI).
- Rastriya Krishi Vikash Yojana (RKVY).

Year-wise details of Outlay, Funds Released and Expenditure under NHM (in Crore)

Year	Sanctio	Sanction			ed Amou	unt	Expenditure	%age of expenditure against
	GOI Share	State share	Total	GOI Share	State share	Total		sanctioned amount
2005-06	50.29	0.00	50.29	23.68	0.00	23.68	3.42	7
2006-07	111.92	0.00	111.92	55.00	0.00	55.00	47.33	42
2007-08	91.03	16.06	107.09	62.52	7.50	70.02	33.57	31

2008-09	107.49	18.97	126.46	30.00	8.83	39.00	84.76	67
2009-10	68.46	12.08	80.54	60.00	10.59	70.59	78.48	97
2010-11	97.75	17.25	115.00	96.57	17.04	113.61	97.94	85
2011-12	93.50	16.50	110.00	85.00	15.00	100.00	98.73	90
2012-13	106.25	18.75	125.0	91.36	9.35	100.71	82.47	66
2013-14	114.75	20.25	135.00	562.0			30.00	

Physical Progress

Sailent Progress till 2012-13 is as follow.

- An additional area of 1.73 lakh ha. of identified horticulture crops has been covered.
- 101 nurseries have ben established for production of quality planting materials.
- An areas of 4370 ha. has been covered under rejuvenation of old and senile orchards.
- Organic farming has been adopted in an area of 4645 ha for promotion of organic cultivation of horticultural crops.
- IPM practices have been adopted in an area of 70157 ha.
- 3 IPM/INM infrastructure faculties such as Leaf tissue analysis labs, disease forecasting units have been created.
- An area of 11406 ha has been covered under Protected cultivation.
- 5948 community water structures have been created.
- Under Post Harvest Management, 1906 units including pack houses, cold storage units, refrigerated vans, primary/mobile processing units, ripening chambers, pre cooling units attach to cold storage and mobile pre cooling units) have been established.
- 100 market infrastructures including 4 whole sale markets, 27 rural markets, 29 market outlets and 40 mobile vending hand carts have been set up.

Indira Gandhi Krishi Vishwavidyalaya, Raipur :Progress Report of NHM components and PFDC programme for the year 2013-14.

Brief status of Trials undertaken in PFDC, Raipur-on going Trials

SI. no	Title of trial	Crop & Varieties	Plot Area (sqm.)	Technology being applied	Purpose of conducting Trial	Activities undertaken during the month	Date of plantin g
1	Impact of Plastculture application &	Tomato/ Shaktiman	500 sqm	Poly house, drip irrigation,	Saving of water & Fertilizers	Nursery have prepared in	Novem ber,
	Precision Farming Techniques on			Fertigation and mulching	Improve the quantity of fruits	portray and soil culture practices	2013

	production of Tomato (Shaktiman) under green house condition				increase the yield and quality attributes	have done and planting will within 3 days	
2	Ultra High Density Orcharding Guava under drip, fertigation along with plastic mulching	Guava Allahabad Safeda, Lalit & L-49 (Sardar Guava)	4000 sqm	Drip irrigation, Fertigation and mulching	Saving of water & Fertilizers Improve the quantity of fruits increase the yield and quality attributes	Cutting and Pruning and Prepared new planting material by Air Layering	16 Februa ry, 2013
3	Production of Chili under drip irrigation fertigation and plastic mulching	Chili Agnirekha (Achari mirch)	700 sqm	drip irrigation, Fertigation and mulching	Saving of water & Fertilizers Improve the quantity of fruits increase the yield and quality attributes	Planting have done under silver plastic mulch and other mulchs	06, Novem ber, 2013

SI. no	Title of trial	Crop & Varieties	Plot Area (sqm.)	Technology being applied	Purpose of conducting Trial	Activities undertaken during the month	Date of plantin g
1	Impact of Plastic application & Precision Farming Techniques on production of Tomato (Shaktiman) open field conditions	Tomato/ Shaktiman	700 sqm	Drip irrigation, Fertigation and mulching	Saving of water & Fertilizers Improve the quantity of fruits increase the yield and quality attributes	Nursery have prepared in portray and soil culture practices have done and planting will within a week	23, Novem ber, 2013
2	Development of package of practices for open field cultivation of Capsicum	Shimla Mirch F1 hyrid (Indria)	500 sqm	Drip irrigation, Fertigation and mulching	Saving of water & Fertilizers Improve the quantity of fruits increase the yield and quality attributes	Cutting and Pruning and Prepared new planting material by Air Layering	8, Novem ber, 2013

Technology Demonstration in PFDC Farms

SI. N o.	Title of Demonstration	Crop & Variety	Plot Area (sqm.)	No. of person s visited during the month	Observa tions/ feedbac k of visitors	Activities undertaken during the month of November	Date of planting
1	Cultivation of Tomato under Drip, Fertigation along with Mulch	Tomato Laxmi (5005)	2200 sqm	-	-	Flowering stage and staking have done	17-10, 2013
2	Production of Cowpea under drip irrigation fertigation and plastic mulch	Cowpea/Ba rbati Redgold	500 sqm	-	-	Flowering stage)- 2013
3	Production of Brinjal	Brinjal	500	-	-	Flowering and fruiting	20 August, 2013

	under drip irrigation fertigation and plastic mulch	Sweta	sqm				
4	Cultivation of Onion under Drip conditions	Onion Red light	200 sqm	-	-	Planting have done on the spacing of 20 x 10	2 November, 2013
5	Cultivation of Garlic under Drip conditions	Garlic Kalyanpuri	300 sqm	-	-	Planting have done on the spacing of 20 x 10	2 November, 2013
6	Cultivation of Tuberose under proven techniques	Tuberose (Rajnigand ha) Rajatrekha, Swarnrekh a, Vaibhav, Prajwal and Suvasini	500 sqm	-	-	Flowering stage	10 July 2013
7	Cauliflower	Cauliflower Madhuri (TL Seed)	-	-	-	Nursery have raised	11 November 2013
8	Cabbage	Cabbage Ankur Manas F1 Hybrid	-	-	-	Nursery have raised	11 November 2013
9	Knol-knol	Knoll-knol Green Globe F1 Hybrid	-	-	-	Nursery have raised	11 November 2013
10	Onion	Onion Red light	-	-	-	Nursery have raised	11 November 2013

Vegetable Cafeteria/ Modern kitchen Gardening- Sowing and planting different type of vegetables under

drip condition. (Student's experiential learning/ identification of different of plant to related course.)

Progress report of Precision Farming Development Centre, 2013

Ongoing Experiments:

	Experiments	Progress
S.N.		
1	Impact of Plasticulture application & Precision Farming Techniques on Production of Tomato Cv. Shaktiman under green house condition.	Crop transplanted in field
2	Ultra High Density Orcharding Guava under drip, fertigation along with plastic mulching.	First training and pruning is done
3.	Production of Chilli under drip irrigation, fertigation and plastic mulching.	Experiment laid out & at flowering stage

Demonstrations at PFDC

S.N.	Experiments	Progress
1	Cultivation of Tomato under drip, fertigation along with Mulch.	Crop is at flowering stage
2	Production of Cowpea under drip irrigation fertigation and plastic mulch.	Crop at vegetative phase
3.	Production of Brinjal under drip irrigation fertigation and Plastic mulch.	Crop is at flowering stage
4.	Cultivation of Onion under drip conditions.	Transplanted
5.	Cultivation of Garlic under drip conditions.	Crop at vegetative phase
6.	Cultivation of Tuberose under proven techniques.	Crop is at flowering stage

Training:

One farmers training have conducted on 28/09/2013 at Abhanpur District Raipur 62 farmers were present in training.

Establishment of New Tissue culture Lab:

Establishment of Building: The laboratory building has been constructed and will be handed over very soon. The floor space for different sections in building is kept looking to NCS-TCP guidelines. The lab consists of two growth chambers, one each of inoculation chamber, media preparation room, sterilization chamber, water softening and distillation chamber, media & chemical storage room, common store room and office cum sitting room. The labs and infrastructure in the building is as per the norms of National Certification System for Tissue Culture Plants, Dept. of Biotechnology, Ministry of Science, GOI.

Establishment of Green house and Hardening Chambers: Both the Green house and Hardening Chambers has been constructed behind the building of proposed Tissue culture Lab. The green house is equipped with modern high-tech facilities for growth of tissue culture raised plantlets with environment controlling systems.

Laboratory equipments and instruments: The laboratory instruments and equipment's like tissue culture racks, Laminar flow, water softening unit, water

purifier, media dispenser, deep freezer, plant transportation trolley, hot air oven, storage racks etc. has been purchased.

Research & Development activities: Facilities available at Department of Plant Molecular Biology and Biotechnology is being used for the development of commercially viable tissue culture protocol for the genotypes suitable for cultivation in Chhattisgarh. During Nov. 2013-14 about 1000 culture of Banana Cv. Grand Niane plants selected based on yield, pseudo stem girth, etc were developed and are presently in different stages in the R&D lab. Up to Oct. 2013-14 7000 plants has been sold to farmers.

Financial progress:

The total budget allotted for the project is 100 lakhs. The expenditure is given below

(Rs. In Lakhs)

S. No.	Allotment	Expenditure	Balance
1	100.00	93.83	6.17

The details of expenditure incurred is given below in table.(up to 31.04.2013)(Rs. In Lakhs)

SI. No.	Particulars	Sanctioned budget	Expenditure	Balance
1.	Civil Work	7.00*	7.00	0.00
2.	Protected structures	34.75	30.65	4.09*
3.	Lab Equipments/ Instruments	32.95	32.53	0.42
4.	Chemical & Glassware	9.50	9.00	0.50
5.	Miscellaneous/ contingency expenditure	15.80	15.36	0.44
	G. Total Amount Rs.	100.00	93.83	6.17

* Transferred to SPP for construction of lab and shed.

Tissue-Culture Project

The tissue culture lab will be established in newly-constructed Rice Research Laboratory building under the Dept. of Horticulture, IGKV, and Raipur (C.G.)

1. Duration of the project:

3 years

 Name of PIs/ COPIs: Principal Investigator:

Dr. Dhananjay Sharma Scientist (Horticulture)

3. Year wise proposed activity

First Year	- Establishment of the Lab and infrastructure
Second Year	- Started with 30% capacity of the project
Third Year	- Run with 50% capacity of the lab

- **4.** Sanctioned budget of the project: 100 lakhs
- Reasons for non-compliance of proposed activities, if any: The scale up for the target no of plants can only be done after completion of New Building, infrastructure and laboratory.

Physical and financial progress

a.) Physical Progress

Establishment of Building: The laboratory building has been constructed. The floor space for different sections in building is kept looking to NCS-TCP guidelines. The lab consists of two growth chambers, one each of inoculation chamber, media preparation room, sterilization chamber, water softening and distillation chamber, media & chemical storage room, common store room and office cum sitting room. The labs and infrastructure in the building is as per the norms of National Certification System for Tissue Culture Plants, Dept. of Bio-technology, Ministry of Science, Gol.

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Laboratory equipments and instruments: The laboratory instruments and equipment's like tissue culture racks, Laminar flow, water softening unit, water purifier, media dispenser, deep freezer, plant transportation trolley, hot air oven, storage racks etc. has been purchased.

Research & Development activities: The R&D facility available at Department of Plant Molecular Biology and Biotechnology is being used for the development of

commercially viable tissue culture protocol for the genotypes suitable for cultivation in Chhattisgarh. During Nov. 2013-14. About 1000 culture of Banan Cv. Grand Niane plants selected based on yield, pseudostem girth, etc were developed and are presently in different satges in the R&D lab. Up to Oct. 2013-14 7000 plants has been sold to farmers.

b.) Financial progress

The total budget allotted for the project is 100 lakhs. The expenditure is given below

(Rs. In Lakhs)

S. No.	Allotment	Expenditure	Balance
1	100.00	93.83	6.17

The details of expenditure incurred is given below in table.(up to 31.04.2013)

(Rs. In Lakhs)

SI. No.	Particulars	Sanctioned	Expenditure	Balance
		budget		
1.	Civil Work	7.00*	7.00	0.00
2.	Protected structures	34.75	30.65	4.09*
3.	Lab Equipments/ Instruments	32.95	32.53	0.42
4.	Chemical & Glassware	9.50	9.00	0.50
5.	Miscellaneous/ contingency expenditure	15.80	15.36	0.44
	G. Total Amount Rs.	100.00	93.83	6.17

* Transferred to SPP for construction of lab and shed.

Observations:

Establishment of New Tissue Culture Laboratory at IGKV, Raipur Chhattisgarh.

This laboratory was sanctioned during 2011-12 and the subsidy of Rs. 100.00 lakhs was released for the purpose. The expenditure made so far is Rs. 93.83, lakhs only and the remaining amount of Rs. 6.17 lakh is purposed to be spent during 2013-14. Presently, this lab has been established in the old available space on the ground

floor and has so far produced 3843 plants during 2012-13. The space for the T.C. Lab is not sufficient. The new lab has been constructed on the 1st floor of the same building and the T.C. Lab is purposed to be shifted to the new space during 2nd week of January, 2014.

As discussed with the concerned officers, the expected Tissue Culture Saplings available for sale from January 2015 will be @ 50.000 per month and @ 1, 00,000 per month from October 2015.

Establishment of RBPL, tissue culture lab (private sector) at District durg, Chhattisgarh.

This lab was sanctioned during 2011-12 and subsidy of Rs.25.00 lakhs was released as 1st Installment for the purpose. There is no progress at all for this lab. Out of the released subsidy expenditure has been made for purchase of Spectrophotometer, Laminar air Flow, autoclave, distillation unit, hot plate, stereomicroscope, projection microscope, etc.



Tissue culture laboratory in IHKV campus





Hardening unit net house

Tissue culture laboratory in IHKV campus



Tissue culture plant for transplanting



Tissue culture plant at 2nd stage of hardening



Tissue culture plant at 1st stage of hardening

Observations:

- Overall financial and physical progress of implementation of NHM activities in Bilashpur,Korba and Raigarh districts of Chhattisgarh was observed to be slow and needs to stepped up.
- Nurseries established at Govt. farm, at Bilaspur and Gharghoda need proper attention including scientific maintenance of mother block and nursery blocks. Further, activities for accreditation of nurseries by National; Horticulture Board may be initiated
- 3. It was observed that the tissue culture laboratory and Model nurseries established by Indira Gandhi Krishi Vishwavidyalaya, Raipur are not yet operational even after more than one year of its funding under NHM. University authorities have attributed the delay to the slow pace of construction of new buildings for tissue culture and bio-control laboratories. State Govt. may take steps to expedite progress in this regard, thereby ensuing needful support to NHM beneficiaries. There is urgent need to expedite their progress to provide support to NHM beneficiaries. Interface meetings with key stakeholders should be regularly organized for capacity utilization and monitoring of such units.
- 4. Aditya Biotech Agricon Tissue culture lab was funded by NHM during the year 2011-12 has not been fully functional.State Government may consider

seeking refund od advance of Rs 25 lakhs in case the unit does not became fully functional within six months.

- It was observed that second and third installments of payment for orchard planting has niot made to the beneficiaries even after seven months in the districts.
- 6. The department needs to ensure timely supply of disease free quality planting material .In the event of shortage of planting material within State,efforts should be made to procure quality seeds / tubers/ rhizomes/planting material from other States as per extant norms and rules.
- 7. Rejuvenation and replacement of Old and senile orchards of mango at Bilaspur and Raigrah districts should be taken on priority. Training of farmers should be carried out for management of rejuvenation activities. Proper management of orchards in Govt. nurseries and rejuvenation of senile mother blocks at Govt. farms also need concerted attention.
- 8. Pollination support through bee keeping for higher production and productivity of horticultural crops may be included in districts.
- Specifications prescribed for proper spacing and Ventura support for fertigation need to be followed while installing drip irrigation system. Training for farmers regarding maintenance of MI system, fertigation scheduling etc need to be undertaken.
- 10. Funds for HRD in Bilapur ,Korba and Raigarh districts need to be utilized to help farmers in adopting latest technologies on the ground.
- 11. The State level monitoring team may be constituted to monitor the progress of centrally sponsored Schemes for horticulture development viz.NHM, NMMI, VIUC and RKVY.
- 12. NHM logo needs to be prominently displayed indicating name of beneficiary, activity and crop details.

Bilaspur District:

The District is bounded on the north by Korea district (C.G.) & district Aanuppur & Dindori (M.P.) and on the east by Jangir Champa and Korba district and on the west Kabeerdham and on south by Durg and Raipur district (C.G.) Eastern part of Bilaspur district has most hilly area and near about 2456 fit high from sea level and the all hilly area is most potential for underground crop like zinger turmeric garlic onion potato and sweet potato. **Geographical area and land use features (Area in ha.)**

Total geographical area	692943 ha.
Total forest land	14565 ha.
Total fallow land	15504 ha.
Total cultivable land	371014 ha.
Kharif	219255 ha.
Rabi	105368 ha.
Total Horticulture area covered	87654 ha.
Horticulture area covered %	23.62%
Area Praposed under Horticulture (from 2010 to 2015)	75302 ha.
Total Praposed area at the end of (2014-2015)	90215 ha.
Percentage area under Horticulture at the end of 2014-	13.01%
15	
Net area irrigation	115636 ha.



Bilaspur is divided into to district land areas viz.,

- I Bilaspur Plains
- II Northern hilly zones

in the north of the district are the mighty Satpura Ranges, in the center the plains of River Arpa, Shivnath, Lailagar, Maniyari and its tributaries. The Bilaspur District receivers annual rainfall ranging from less than 800 mm to greater than 1000 mm in different areas. The border of Bilaspur district is touched by the District Korba (C.G.) & Anuppur (M.P.) in the North, Bemetara & Raipur in the South, Korba in the East & Mungeli, in the West. Paddy is the main crop of the district Bilaspur and due to abundance of production of Paddy Chhattisgarh was earlier known as Rice Bowl of Central India.'

After rainy season unpland area of rivers like Arpa & Shivnath serve as potential area for river bed cultivation of horticulture crops. This area is most suitable for growing cucurbit crops because sand and soil particles are free of fungal contamination like fusarium which cause rotting and wilting in seedlings. Apart from cucurbits other crops like Tomato, Brinjal, Radish, Arbi, Bhindi and leafy vegetables are also grown in summer as off-season crops which fetch good market price to farmers.

Total Population of the District Bilaspur is about 26.62 lakhs with 15.56 million people residing in rural area constituting more than 0.79 lakhs family of shedulded coste and 0.63 lakh are Scheduled Tribe family. Education system in Bilaspur needs greater attention especially in female education. The literacy rate is 71.49% as compared to the national rate of 65.38%. The literacy rates are still lower in rural areas particularly in tribal blocks like Pendra, Gaurella, Marwahi & some parts of Kota.

Climate and Soil:

The general climate of Bilaspur district is dry sub-humid type where. The average annual rainfall of the region is round 1050 mm and about 90 to 95 percent of this amount is received during southwest monsoon season (June-October). The monsoon sets in around 10th June. Months of July and August are the wettest months. 3 times rainfall occurs in October month due to cyclonic activity in the Bay of Bengal and October rainfall is most crucial for the productivity of rice in the district .Max. temperature during summer season is recorded 37^oc to 40^oc and minimum 18^oc to 22^oc and in winter season maximum temp. 22^{0c} to 24^{oc} and minimum 2^oc to 4^oc is observed Topography of the district consists of undulating terrains full of numerous hillocks connected with dense forest and centaury reserve forest in achanakmar area. Main rivers of the district are Arapa, Shivnatha, lilagar which have so many tributaries. The total geographical area of State,out of which is 5028626

is cultivable land and 373426 ha. is under cultivation of various crops. The area under reserved and open forest is 113865 ha. A variety of fruits (Mango, Litchi, Guava, Jack fruit, Amla, Lobia, Banana, Papaya and Custard apple) Vegetables (Tomato, Colocacia, Potato, Chillies, Okra, Cabbage, Cauliflowers, Brinjal, Cucarbitaeces etc.) and flowers are also grown in the district. At present around 87654 hectares is under Horticulture i.e. around 23.62% of the cultivated area.

November onward the average minimum temperature starts falling below $10^{\circ} - 12^{\circ}$ C and in the northern block Pendra, Gourella & Marwahi it is nearly about 2 to 4oC respectively. Bilaspur district have ore serve and longer winter period as compared to other parts of State. The atmospheric humidity is very high (90%) during monsoon months and starts decreasing form October onwards and reaches as low as 15-20 percent during peak summer months.

On the basis of general climatic features of the district, plain areas are suitable for Mango, Guava, Lime, and Custard Apple and hilly area is suitable for Mango, Litchi and Jack fruit cultivation.

The soils of Bilaspur varies considerably in to two different agro-climatic zones. The different soils that exist in the to agro-climatic zones are as follows:

Bilaspur Plains	Northern hills
Bhata (Leteritic)	Hilly soils
Matasai (Sandy Ioam)	Tikra
Dorsa (Clay loam)	Bahra
Kanhar (Clay)	

The first two categories of the soils in the Agro climatic zones are very light type soils with very low water retention 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. Five block of the district having 70% to 90% alluvial soils which are suitable for lime, guava, for fruit and tomato, brinjal and Okra

Agro-climatic zones-

Agro-climatically, Bilaspur may be divided into 2 agro climate zones with immense potential of horticulture development.

SI.	Agro-climatic	Blocks
no.	zone	
1	Bilaspur Plain	Bilha, Masturi, Takhatpur, and Maximum portion of Kota
2	Northern Hills	Gaurella, Pendra, Marwahi some person of and Kota

Irrigation:

In Bilaspur District about 31.00% of net cropped area is under irrigation. The irrigation problem is required to be tackled to be tackled differently for rapid growth of assured water supply for diversification of existing production systems to high value horticultural and other crops. There is a need to understand as to how the existing irrigation sources can meet this important requirement. Launching of new scheme National Agriculture Development Plan, the harnessing of the surface and sub-surface water resources is possible by strengthening the existing irrigation infrastructure.

Horticulture

In Bilaspur district rice is the main crop grown in about 3.4 lakh ha. covering 68 percent of the net shown area is under irrigation and rest is under rainfed conditions. 85 to 90 percent area in northern hills is rainfed. The irrigated area available for double cropping is only 1.29 lakhs ha. in Bilaspur plains. The cropping intensity is 153 for the district, out of this a major area in rabi season is under (relay cropping) .Paddy needs to be replaced from upland where it gives only nominal yield. Horticultural crops are the best alternative for crop diversification.

The major horticultural crops can be promoted n different agro-climatic area of the district are given below.

SI.	Crops	Blocks	
no.			
Fruits	5		
1	Mango	Bilha, Masturi, Pendra, Gaurella, Marwahi and kota	
2	Guava	Pendra, Gaurella, Marwahi	
3	Lime	Bilha, Masturi, Takhatpur, Kota, Pendra, Gaurella, Marwahi	
4	Banana & Papaya	Bilha, Masturi, Takhatpur	
veget	able		
1	Potato	Takhatpur, Kota, Pendra, Gaurella, Marwahi	
2	Tomato	Bilha, Masturi, Takhatpur	
3	Brinjal	Bilha, Masturi, Takhatpur	
4	Reiver bed cultivation (Water melon, Muskmelon, Bottleguard, Pumpkin, Bitterguard , Cucumber species	Bilha, Masturi, Kota	

Spice	Spices		
1	Chili	Bilha, Masturi, Takhatpur	
2	Coriander	Bilha, Masturi, Takhatpur, Kota	
3	Garlic	Bilha, Masturi, Takhatpur, Kota	
4	Ginger	Gaurella, Pendra, Marwahi, Kota	
Aromatics		Bilha, Masturi, Takhatpur, Kota	
1	Lemon grass	Bilha, Masturi, Takhatpur, Kota	

Before the start of NHM the maximum quantity of flowers imported from West Bengal. In last year's vast area covered under the flower cultivation through NHM. All produce is consumed in the local market only,

Check list for reviewing progress on Area Expansion and Rejuvenation

Activities under National Horticulture Mission (NHM) by joint Inspection Team

1	Name of the Address of Beneficiary whose field visited	Mrs Meenakshi Ladikar W/o Mr Prakash Ladikar
2	Total land available with beneficiary (ha.)	7.028
3	Crop cluster under which covered	Banana
4	Name and Variety of crop planted	G-9
5	Source of planting material	Aditya BioTech Plantation
		Ltd. Raipur
6	Number of plants planted	5000
7	Date of planting/rejuvenated	26/06/2013
8	Number of plants witch survived (also	4800 – 96 %
	indicate percentage survival)	
9	Total amount of subsidy assistance due to	
	the beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/	tube well
	canal)	
13	Whether Drip/Sprinkler system in use	Drip
14	Other input provided	
15	Whether assistance available for Organic	
	farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	Bilaspur & Takhatpur
19	Other infrastructure are available in the	
	vicinity	
20	General unkeep of the plot: Very	average
	good/Good/average/Poor	

21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	



Check list for reviewing progress on Area Expansion and Rejuvenation

Activities under National Horticulture Mission (NHM) by joint Inspection Team

1	Name of the Address of Beneficiary whose	Mrs Shakuntla Gupta W/o
	field visited	Santosh Gupta
2	Total land available with beneficiary (ha.)	5.832
3	Crop cluster under which covered	Individual
4	Name and Variety of crop planted	Guava (Thisland)
5	Source of planting material	VNR Seed
6	Number of plants planted	5500
7	Date of planting/rejuvenated	20/06/2013
8	Number of plants witch survived (also	5482 – 99 %
	indicate percentage survival)	
9	Total amount of subsidy assistance due to	
	the beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/	tube well
	canal)	
13	Whether Drip/Sprinkler system in use	Drip
14	Other input provided	
15	Whether assistance available for Organic	
	farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	Bilaspur & Takhatpur
19	Other infrastructure are available in the	
	vicinity	
20	General unkeep of the plot: Very	Good

	good/Good/average/Poor	
21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	



1	Name of the Address of Beneficiary whose	Mrs Sarika Gupta W/o
	field visited	Santosh Gupta
2	Total land available with beneficiary (ha.)	5.710
3	Crop cluster under which covered	Individual
4	Name and Variety of crop planted	Papaya 786
5	Source of planting material	VNR Seed
6	Number of plants planted	30000
7	Date of planting/rejuvenated	20/06/2013
8	Number of plants witch survived (also	29575 – 98 %
	indicate percentage survival)	
9	Total amount of subsidy assistance due to	
	the beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/	tube well
	canal)	
13	Whether Drip/Sprinkler system in use	Drip
14	Other input provided	
15	Whether assistance available for Organic	
	farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	Bilaspur & Takhatpur
19	Other infrastructure are available in the	
	vicinity	
20	General unkeep of the plot: Very	Good

	good/Good/average/Poor	
21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	



Check list for reviewing progress on Area Expansion and Rejuvenation

Activities under National Horticulture Mission (NHM) by joint Inspection Team

1	Name of the Address of Beneficiary whose	Mr Sakeel Ahmad S/o
	field visited	M.K.Husain Village - Binaari
2	Total land available with beneficiary (ha.)	10.00
3	Crop cluster under which covered	Banana
4	Name and Variety of crop planted	.G-9
5	Source of planting material	. Aditya BioTech Plantation
		Ltd. Raipur
6	Number of plants planted	20000
7	Date of planting/rejuvenated	.7/07/2013 to 10/07/2013
8	Number of plants witch survived (also	19823 – 99 %
	indicate percentage survival)	
9	Total amount of subsidy assistance due to	
	the beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/	tube well
	canal)	
13	Whether Drip/Sprinkler system in use	Drip
14	Other input provided	
15	Whether assistance available for Organic	
	farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	Bilaspur & Takhatpur
19	Other infrastructure are available in the	

	vicinity	
20	General unkeep of the plot: Very	average
	good/Good/average/Poor	
21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	



Check list for reviewing progress on Area Expansion and Rejuvenation

Activities under National Horticulture Mission (NHM) by joint Inspection Team

1	Name of the Address of Beneficiary whose	Mrs Madhu Gupta W/o
	field visited	Deepak Gupta
2	Total land available with beneficiary (ha.)	3.000
3	Crop cluster under which covered	Individual, Banana
4	Name and Variety of crop planted	G-9
5	Source of planting material	Devleela BioTech Plantation
		Ltd. Raipur
6	Number of plants planted	7500
7	Date of planting/rejuvenated	17/06/2013
8	Number of plants witch survived (also	7360 – 98 %
	indicate percentage survival)	
9	Total amount of subsidy assistance due to	
	the beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/	tube well
	canal)	
13	Whether Drip/Sprinkler system in use	Drip
14	Other input provided	
15	Whether assistance available for Organic	
	farming	
16	If so, area covered	
17	Assistance availed	

18	Available marketing facility for the crop	Bilaspur & Takhatpur
19	Other infrastructure are available in the vicinity	
20	General unkeep of the plot: Very good/Good/average/Poor	Good
21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	



Durg District:

The district covers an area of 8,537 km². According to the 2011 census Durg district has a population of 3, 343, 079, Durg consists of 3 blocks. 3 Tehsils, and I subdivision. District is situated between 17-23.7^o N Latitude and 80.43-83.38^o E Longitudes in central western part of Chhattisgarh. The total geographical area of the district is more than 2.32 lakh hectare. The District occupies the southwestern part of the Upper Sheonath-Mahanadi valley and the bordering hills in the south and southwest. Physiographically, the District can be divided into two divisions, viz. plain and the Southern plateau. The Chhattisgarh plain occupies the largest area in the District.



District Profile

- Geographical area 2.32 lakh ha.
- Net sown area 1.51 lakh ha. (65% of its geographical area.)
- Total horticulture area during 2010-11-0.36 lakh h. (23% of its net sown area)
- Proposed horticulture area (after 5 years 2014-15)-0.39 lakh ha (26% of its net sown area)
- Percentage increase form 2010-11 to 2014-15-8.3%
- 41% soil is medium to light.
- Average rainfall 1042.6 mm.
- Farm families: 1.61 lakh (6.41% ST, 14.9% SC)
- 47% marginal farmers own 21% land.
- 17% small farmers own 23% land.
- 0.03% others own 85% land.
- Average land holding: 1.06 ha. per family.
- Under fruits Mango is a major crop which occupies 1155 ha. of the total cropped area of fruits (4710 lakh ha.) Under Spices Chili is major crop which occupies 2090 ha. of the total cropped of spices (3980 lakh ha.). Under vegetable Tomatio is major crop which occupies 3635 ha. of the total cropped area of Vegetable (26182 lakh ha.)

- Area under Rabi crops 90000 lakh ha. Which Constitutes only 59% of net sown area.
- Net irrigated area 0.90 lakh ha. (59%)

Climate and Soil:

- I. **Plain Region:-** Consists form some part of Gurur, Dondilohara, Balod and total area of Patan, Durg, Dhamdha blocks. This district is surrounded by in southern part and Dhamteri district in eastern part and Raipur and Rajnandgaon district in northern, north-east and north-west part whereas Rajnandgaon district in western part.
- Urban Population- 1054002
- Rural Population 539174

Different Category of Farmers

- Marginal-76079
- Small-27561
- Large-21603

The general climate of Durg District is dry sub-humid type where the annual potential evapo transpiration is slightly higher than the annual rainfall. The average annual rainfall of the district is around1074 mm and about 90 to 95 percent of this year is received during southwest monsoon season (June-October). The monsoon sets in around 10th June in the tip of the Bastar are the wettest months. 3 Rainfall in October month occurs due to cyclonic activity in the Bay of Bengal and October rainfall if most crucial for the productivity of rice in the district which adversely affect main rabi season and early rabi season vegetable crops and increase input cast.District receives very short winter season starts form last of November to mid of January due to this situation district has opportunity to grow Papaya.

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

District has four different types of soils Bhata, Matasi, Dorsa and Kanhar Bhata soil also known as Lateritic soil mainly rich form gravels, sand and iron. Matasi soil also known as sandy loam humus rich soil and best for Horticulture crops with irrigation facility. Dorsa soil also known as clay loam soil which is rich of clay particles and Kanhar soil which has very poor drainage and good for water loving crops like rice etc.In the district Bhata and Matasi soil covers about 40% of the cultivated land. In these type of soil have greater potential and scope to increase horticultural crops area by providing irrigation and fencing facilities.

Irrigation

District has 62% cultivated area under Irrigation through different sources of irrigation which is presented in following diagram. Horticultural crops required assured irrigation which should be through be tube wells or through well and pump or river and pump, through such type of irrigation district has more than 0.95% lakh hectare area out of which we have covered under horticulture today about % that area. Through crop diversification district has greater opportunity to cover all the tube well irrigated area under horticulture crop with the development of required drainage channel.

Horticulture

In this district approximately 23% cultivated area are under Horticultural crops (36979 hectare), out of which 65% area is under vegetable cultivation (26182 hectare) during 2010-11.

The major horticulture cro	os can be	e promoted	in	different	blocks	of	the	district	are
given below-									

SI. No.	Crops	Blocks Selected
Fruits		
1	Banana & Papaya	Durg, Dhamdha, Patan
2	Mango	Patan,Durg, Dhamdha,
3	Guava	Durg, Dhamdha, Patan
Vegetables	Tomato, Cauliflower, Cabbage, Capsicum, Brinjal, Bottle gourd, Sem	Durg, Dhamdha, Patan
Spices	Chilies, Ginger	Durg, Dhamdha, Patan
	Coriander	Dhamdha
Flowers	Rose, Gerbera, Gladiolus	Durg, Dhamdha, Patan

As present market demand and natural recourses available in the district the major emphasis will be provided to banana and papaya in fruit, tomato in vegetable, chilies in spices and rose in flowers.

Existing infrastructural facilities:

A. Nurseries-

There are 3 departmental nurseries situated in different 3 blocks of the districts. Two more new nurseries are under process of establishment in the district. Nurseries like Ruabandha, Aheri, Patan, are taken under NHM as Model Nurseries

After modernization of these Nurseries capacity of plant production has increased from 2 lakh to 5 lakh plant per year.

SI.	Nurseries	Block	Area	Establishment	Remark
No			(Ha)	year	
1	Atari	Patan	6.07	1979-80	Modernization
2	Rubandha	Durg	4.00	1985-86	and up-
3	Aheri	Dhamdha	5.80	1992-93	gradation work has been done under NHM

Horticulture Nurseries in the District

Mango orchards are developed in about 12.6 ha. (approx.) in horticulture nurseries, presently used as a source of mother trees for propagation of mango grafts, as the mother plants became very old (28-30 years) so these orchards required to be rejuvenated.

SI.	Block	Nursery	No. of mother Plants					
			mango	guava	Anola	Jack fruit	Lime	Total
1	Patan	Atari	106	48	12	20	77	279
2	Durg	Rubandha	72	-	40	-	-	112
3	Dhamdha	Aheri	232	27	30	4	30	393
	Total	·		75	82	24	107	784

Seed Production farms:

Under NHM okra seed production program has been taken in 3 hectare in the year 2009-10, produce 10 Quintal okra seeds certified II by the same program and potato seed production program 2 ha.

Training Center:

Trainings are given to the farmers by KVK ,Anjora. Department also undertake specific trainings to the farmers before and during cropping season and demonstration.

Processing Centers:

For grading and processing of horticulture produce different units are established in the different blocks of the district on trial basis. The details of the units established are:

SI. No.	Unit established	No. of unit	Name of Block	Capacity	Remark
1	Tomato Grading waxing Machine	1	Dhamdha	500 kg per hour	Public Sector
2	Banana Grading waxing plant	1	Dhamdha	400 kg per hour	Public Sector
3	Godrej Tomato Ketchup, Mango pulp production unit (under private sector)	1	Durg (Kuthrel	400000 MT Tomato, 15000 MT Mango Annual consumption capacity	Private Sector

2. Area & Production

the area production of fruits, vegetable, spices, flowers and medicinal and aromatic crops from year 2004-05 to 2010-11 is given below:-

SI.	Crops	2004	l-05	2010-11		
No		Area (000' Ha.)	Production (Ton)	Area (000' Ha.)	Production (Ton)	
1	Fruits	1.322	9.265	4.710	85.027	
2	Vegetables	13.527	134.831	26.183	470.790	
3	Spices	1.024	4.038	3.980	22.507	
4	Flowers	0.088	0.165	0.538	2.306	
5	Medicinal & aromatic	0.017	0.097	0.569	1.114	

Marketing facilities:

The districts is producing sufficient quantity of vegetables to fulfill its own requirement during the main season and in some crops like tomato, capsicum, cabbage, cauliflower hybrid chili in the main crop produce were supplied to outside State like Bhubaneshwar, Nagpur, Delhi, Nasik etc.

Month wise surplus of horticulture produce and supplied market are as :

SI.	Name of Crops	Surplus period			Supplied market	Approx.
No.						Quantity
						(in MT)
1	Papaya	From	Oct.	to	Delhi,Nagpur	50,000
		Mar.				
2	Tomato	From	Oct.	to	Hyderabad,Vijayawada,	24,000
		Dec.			Jabalpur	

		From Jan. to	Delhi,Bhuneshwar,	
		Mar.	Nagpur, Banglore,	
			Nasik	1,00,000
3	Hybrid Chili	Oct. to Mar.	Delhi, Bhuneshwar,	
	Capsicum		Nagpur	50,000
4	Cabbage,	Dec. to Mar	Bhuneshwar, Nagpur,	
	Cauliflower		Jabalpur,	50,000
5	Bottlegourd,	Mar. to Jul	Allahabad,Bhuneshwar,	50,000
	Bittergroud		Nagpur,	

District has special feature that in the month of June to august tomato comes from Banglore and after that from September to October comes from Nasik and in between January to march tomato of our produced tomato again go back to Nasik and Bangalore market.

SI. No.	Block	APMCS	
		Main Market	Rural market/ Haat Bazar
1	Patan	Patan	Jamgaon M, Jamgaon R, Funda
2	Durg	Durg, Bhilai	Jeorasirsa, Nagpur, Utai, Anda
3	Dhamdha	Dhamdha	Ahivara, Murmunda, Kumhari,
			Kapsda, Bori

Available Marketing infrastructure facilities.

1	Name of the Address of Beneficiary whose field	Shri. Ghanshyam			
	visited	Parmar, Pishe Gao			
2	Total land available with beneficiary (ha.)	1.84/1.00			
3	Crop cluster under which covered	Durg			
4	Name and Variety of crop planted	V.N.R. Guava			
5	Source of planting material	V.N.R. Raipur			
6	Number of plants planted	1100			
7	Date of planting/rejuvenated	2013-14			
8	Number of plants witch survived (also indicate	1045(95%)			
	percentage survival)				
9	Total amount of subsidy assistance due to the	18800			
	beneficiary as Rs.				
10	Amount paid and date of payment	Under Process			
11	Mode of payment	-			
12	Source of irrigation (Borewell/ tube well/ canal)	Tubewell			
13	Whether Drip/Sprinkler system in use	Drip *(NMMI)			
14	Other input provided	-			

15	Whether assistance available for Organic farming	-
16	If so, area covered	-
17	Assistance availed	R.K.V.Y. Cauliflower
		2.00 ha.
18	Available marketing facility for the crop	Sabji Mandi, Durg
19	Other infrastructure are available in the vicinity	-
20	General unkeep of the plot: Very	-
	good/Good/average/Poor	
21	Any other relvant observation by the JIT	-
22	Whether NHM Logo displayed	-

1	Name of the Address of Beneficiary whose field visited	Shri Panka Tank, Nagpura			
2	Total land available with beneficiary (ha.)	2.80			
3	Crop cluster under which covered	Durg			
4	Name and Variety of crop planted	Tomato 5005			
5	Source of planting material	Bana Form, Raipur			
6	Number of plants planted	8000			
7	Date of planting/rejuvenated	2013-14			
8	Number of plants witch survived (also indicate percentage survival)	7200(90%)			
9	Total amount of subsidy assistance due to the 7000 beneficiary as Rs.				
10	Amount paid and date of payment	cheque			
11	Mode of payment	-			
12	Source of irrigation (Borewell/ tube well/ canal)	Tube well			
13	Whether Drip/Sprinkler system in use	Drip (NMMI)			
14	Other input provided	-			
15	Whether assistance available for Organic farming	-			
16	If so, area covered	-			
17	Assistance availed	NHM mulching 2012-13			
18	Available marketing facility for the crop	Sabji Mandi, Durg			
19	Other infrastructure are available in the vicinity	Pack House			
20	General unkeep of the plot: Very good/Good/average/Poor	-			
21	Any other relvant observation by the JIT	-			
22	Whether NHM Logo displayed	-			

Check list for reviewing progress on Area Expansion and Rejuvenation
Activities under National Horticulture Mission (NHM) by joint Inspection Team

1	Name of the Address of Beneficiary whose field visited	Shri Atul Chawda
2	Total land available with beneficiary (ha.)	8.90
3	Crop cluster under which covered	Dhamdha
4	Name and Variety of crop planted	Green House
		Naturally Vantilated
		1000 squ mts
5	Source of planting material	Own Source
6	Number of plants planted	-
7	Date of planting/rejuvenated	-
8	Number of plants witch survived (also indicate	-
	percentage survival)	
9	Total amount of subsidy assistance due to the	467500
	beneficiary as Rs.	
10	Amount paid and date of payment	2012-13
11	Mode of payment	By cheque
12	Source of irrigation (Borewell/ tube well/ canal)	Tube well
13	Whether Drip/Sprinkler system in use	-
14	Other input provided	-
15	Whether assistance available for Organic farming	-
16	If so, area covered	-
17	Assistance availed	-
18	Available marketing facility for the crop	Sabji Mandi, Durg
19	Other infrastructure are available in the vicinity	-
20	General unkeep of the plot: Very	-
	good/Good/average/Poor	
21	Any other relvant observation by the JIT	-
22	Whether NHM Logo displayed	Pack House

1	Name of the Address of Beneficiary whose field	Smt. Nutan Khediya
	VISITED	
2	Total land available with beneficiary (ha.)	5.76
3	Crop cluster under which covered	Dhamdha
4	Name and Variety of crop planted	Protected Cultivation
		4000 sqs mts
5	Source of planting material	Own Source
6	Number of plants planted	-

7	Date of planting/rejuvenated	-
8	Number of plants witch survived (also indicate	-
	percentage survival)	
9	Total amount of subsidy assistance due to the	1179000
	beneficiary as Rs.	
10	Amount paid and date of payment	2012-13
11	Mode of payment	By cheque
12	Source of irrigation (Borewell/ tube well/ canal)	Tube well
13	Whether Drip/Sprinkler system in use	-
14	Other input provided	-
15	Whether assistance available for Organic farming	-
16	If so, area covered	-
17	Assistance availed	-
18	Available marketing facility for the crop	Sabji Mandi, Durg
19	Other infrastructure are available in the vicinity	-
20	General unkeep of the plot: Very	-
	good/Good/average/Poor	
21	Any other relvant observation by the JIT	-
22	Whether NHM Logo displayed	yes

1	Name of the Address of Beneficiary whose field visited	Shri. Hitesh Varu
2	Total land available with beneficiary (ha.)	4.55
3	Crop cluster under which covered	Dhamdha
4	Name and Variety of crop planted	Guava, Banana
5	Source of planting material	Jain VNR
6	Number of plants planted	Banana 5000, Guava 4440
7	Date of planting/rejuvenated	2013-14
8	Number of plants witch survived (also indicate	-
	percentage survival)	
9	Total amount of subsidy assistance due to the	Banana 75200/-
	beneficiary as Rs.	Guava-62400/-
10	Amount paid and date of payment	Under Process
11	Mode of payment	Kinds and Cash
12	Source of irrigation (Borewell/ tube well/ canal)	Tube well
13	Whether Drip/Sprinkler system in use	Drip
14	Other input provided	-
15	Whether assistance available for Organic farming	-
16	If so, area covered	-

17	Assistance availed					-	
18	Available marketing facility for the crop					Sabji Mandi, Durg	
19	Other infrastructure are available in the vicinity					-	
20	General	unkeep	of	the	plot:	Very	-
	good/Good/average/Poor						
21	Any other relvant observation by the JIT					-	
22	Whether NHM Logo displayed				yes		

Durg district photographs





























Raigarh District:

Raigarh is located at 21°54′N 83°24′E/ 21.9°N 83.4°E. The total geographical area of the district is 6577.44 Sq.km. According to the 2011 census Raigarh district has a population of 1,493,627.It is surrounded by Jashpur Nagar in the North Mahasamund in the south, the State Odisha border in the North –East and South-East.



Raigarh District Profile:

Geographical area of theb district is 5.03128 lakh ha. (3.64% of the state) and Net sown area 3.09145 lakh ha. (61.44%).Soils is medium to light and forest covers 0.58197 lakh ha. (11.56%).

- Average rainfall 1272.5 mm.
- 29.70% others own 66% land.
- Average land holding : 1.60ha.
- Total area under horticulture till 2004-05-22562 ha. (4.48%) (Including 8385 ha. Double Crops Area)
- Total area under horticulture 2010-11-48030 ha. (9.54%)
- Total area under horticulture 2011-12 50356 ha. -(10.00%)
- Total area under horticulture 2012-13-54776 ha. (10.88%)
- Total increase area under horticulture by NHM (2005-06 to 2012-13)- 12032.5 ha. (3.89%)
- Total horticulture area may be (At the end of 2014-15)-60761 ha. (12.07%)

- Under fruits Mango is a major crop which occupies 6087 ha. & Cashew is secondly major crop which occupies 8468 ha, (including about -3500 ha. wild & Forest area) of the total cropped area of fruits (0.22083 lakh ha.). Under Spices Coriander is major Crops which occupies 1985 ha. & Chili is second major crp which occupies 3030 ha. Along with Ginger is third major crop which occupies 1680 ha. of the total cropped area of Spices (0.07913 lakh ha.). Under vegetables tomato is major crop which occupies 3565 ha. And Potato is secondly major crop which occupies 3360 ha. of the total cropped area of vegetables (0.18991 lakh ha.)
- After continuation of project in 2014-15 area of horticulture will be 60761 ha. (12.07%)
- Area under Rabi crops 0.92550 lakh ha. Which constitutes only 18% of the net sown area.
- Net irrigated area 2.14896 lakh ha. (42.71%)
- Cropping intensity 132%.

Climatic and Soil:

Climatic area of the District Raigarh are given below. 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 46 C in May-June at Maximum level and 12 C in December-January to 15 C in July. The rainfall pattern ranges from 938 mm to 1509 mm with an average rainfall 1272.5 mm. More than 90% of rainfall is received in the months of June to September. Only 32.93% of the area is facilitated with irrigation.

The soils of District Raigarh vary considerably in the C.G. Plane Zone & Partially Narthern Hilly Area. Through the nomenclature is different, the types of the soils especially the physical properties are the same. The different soils that exist are as follow:

Soil Type	Area (ha.)	Percentage
Bhata soil	49460	16%
Matasi soil	166940	54%
Dorsa soil	77290	25%
Kanhar soil	15455	5%

As a result water stress of 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 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-

Raigarh district is comes in C.G. Plain agro climate zones and dharamjagarh Tehasils of Raigarh district is comes in northern hills area.

Present Irrigation Scenario

Major irrigation facilities are Tube wells (100000 ha. – 47%) Second irrigation means is canals (45140 ha. – 21%), irrigated area by tanks is 36850 ha. (17%) & by other sources irrigated area is 28046 ha. (13%) Irrigated area by Wells is 4860 ha. (2%). Intensity of Rainfall is higher during the June to September. In month of February rains is ofenly occurs due to Chakrawat.

Horticulture Status:

In district Raigarh only about 42.71% is under irrigation and rest under rain fed conditions. The cropping intensity is 132%. Out of this a major area in rabi season is under relay cropping and assured irrigated double cropped area is very less. The major horticultural :

· · ·			
SI. NO.	Crops	Block Selected	
Fruits			
1	Mango	Lailunga, Dharamjaygarh, Kharsia, Baramkela,	
<u> </u>	0		
2	Cashew	Lailunga, Dharamjaygarh, Kharsia, Lamnar, Gharghoda.	
3	Banana &	Baramkela, Pussore Raigarh Lailunga, Kharsia,	
	Papaya	Tamnar,	
Vegetables			
1	Tomato	Lailunga, Dharamjaygarh, Kharsia, Tamnar, Gharghoda. Raigarh	
2	Potato	Raigarh Pussore, Baramkela, Dharamjaygarh, Lailunga,	
3	Cauliflower	Pussore, Raigarh, Lailunga, Dharamjaygarh	
4	Parwal	Raigarh	
Spices			
1	Coriander	Baramkela, Sarangarh, Raigarh Pussore	
2	Chili	Lailunga, Dharamjaygarh, Gharghoda. Kharsia,	
		Raigarh, Tamnar, Barmkela	
3	Ginger	Pussore, Tamnar, Lailunga, Dharamjaygarh	
Flowers			
1	Marigold	Raigarh.	

Crop distribution as natural capital-

Existing infrastructural facilities: Nurseries:

There are 09 departmental nurseries situated in different 09 blocks of the districtsIn Seven nurseries are supported withNHM In each nursery about 2 hectare area is available for raising seedlings. In this way at present total 18 hectare land is available in the district for seedling raising, grafting and other nursery activities.

Horticultural Nurseries:

S. No.	Nurseries	Block	Area (ha.)	Remark
1	Boirdadar	Raigarh	4.00	Under NHM up-
2	Baghadola	Pussore	4.00	gradation has
3	Beltikari	Sarangarh	4.00	been done.
4	Nadigaon	Baramkela	4.00	
5	Anjpropali	Kharsia	4.00	
6	Basanpali	Tamnar	4.00	
7	Gharghoda	Gharghoda	4.00	
8	Lailunga	Lailunga	4.00	
9	dharamjaigarh	dharamjaigarh	11.00	

1	Name of the Address of Beneficiary whose field visited	Shri Budhnath Singh (Katakliya)
2	Total land available with beneficiary (ha.)	Above 2.000 H
3	Crop cluster under which covered	2.000 Ha.
4	Name and Variety of crop planted	Grafted Mango (Dasha langda)
5	Source of planting material	Govt. Horticulture Nurs Kunjara Lailunga
6	Number of plants planted	560
7	Date of planting/rejuvenated	2012-13
8	Number of plants witch survived (also indicate percentage survival)	560
9	Total amount of subsidy assistance due to the beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/ canal)	

13	Whether Drip/Sprinkler system in use	
14	Other input provided	
15	Whether assistance available for Organic farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	
19	Other infrastructure are available in the vicinity	
20	General unkeep of the plot: Very good/Good/average/Poor	
21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	

1	Name of the Address of Beneficiary whose field visited	Shri Hrishikesh Singh (Katakliya)
2	Total land available with beneficiary (ha.)	Above 2.000 Ha
3	Crop cluster under which covered	2.000 Ha.
4	Name and Variety of crop planted	Grafted Mango (Dasha langda)
5	Source of planting material	. Govt. Horticulture Nurs Kunjara Lailunga
6	Number of plants planted	.560
7	Date of planting/rejuvenated	2012-13
8	Number of plants witch survived (also indicate	560
	percentage survival)	
9	Total amount of subsidy assistance due to the	
	beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/ canal)	
13	Whether Drip/Sprinkler system in use	
14	Other input provided	
15	Whether assistance available for Organic farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	
19	Other infrastructure are available in the vicinity	
20	General unkeep of the plot: Very	
	good/Good/average/Poor	
21	Any other relvant observation by the JIT	

22	Whether NHM Logo displayed	
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1	Name of the Address of Beneficiary whose field visited	Shri Chudamani (Katakliya)
2	Total land available with beneficiary (ha.)	. Above 2.000 Ha
3	Crop cluster under which covered	.2.000 Ha.
4	Name and Variety of crop planted	. Grafted Mango (Dash langda)
5	Source of planting material	. Govt. Horticulture Nurs Kunjara Lailunga
6	Number of plants planted	.560
7	Date of planting/rejuvenated	2012-13
8	Number of plants witch survived (also indicate	560
	percentage survival)	
9	Total amount of subsidy assistance due to the	
	beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/ canal)	
13	Whether Drip/Sprinkler system in use	
14	Other input provided	
15	Whether assistance available for Organic farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	
19	Other infrastructure are available in the vicinity	
20	General unkeep of the plot: Very	
	good/Good/average/Poor	
21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	

1	Name of the Address of Beneficiary whose field visited	Shri Baratram (Katakliya)
2	Total land available with beneficiary (ha.)	. Above 2.000 Ha

3	Crop cluster under which covered	.2.000 Ha.
4	Name and Variety of crop planted	. Grafted Mango (Amrapali Mallika)
5	Source of planting material	. Govt. Horticulture Nursery Kunjara Lailunga
6	Number of plants planted	.560
7	Date of planting/rejuvenated	2012-13
8	Number of plants witch survived (also indicate percentage survival)	560
9	Total amount of subsidy assistance due to the	
	beneficiary as Rs.	
10	Amount paid and date of payment	
11	Mode of payment	
12	Source of irrigation (Borewell/ tube well/ canal)	
13	Whether Drip/Sprinkler system in use	
14	Other input provided	
15	Whether assistance available for Organic farming	
16	If so, area covered	
17	Assistance availed	
18	Available marketing facility for the crop	
19	Other infrastructure are available in the vicinity	
20	General unkeep of the plot: Very	
	good/Good/average/Poor	
21	Any other relvant observation by the JIT	
22	Whether NHM Logo displayed	

Check list for Reviewing Progress on Area Expansion and Rejuvenation

Activities under National Horticulture Mission (NHM) by Joint Inspection Team

1	Name of the Address of Beneficiary whose field visited	Shri Beliram
		(Katakliya)
2	Total land available with beneficiary (ha.)	. Above 2.000 Ha
3	Crop cluster under which covered	.2.000 Ha.
4	Name and Variety of crop planted	. Grafted Mango (Amrapali Mallika)
5	Source of planting material	. Govt. Horticulture Nursery Kunjara Lailunga
6	Number of plants planted	.560
7	Date of planting/rejuvenated	2012-13

8	Number of plants witch survived (also indicate	560
	percentage survival)	Available marketing
	facility for the crop	Local
9	Other infrastructure available in the vicinity	No
10	General upkeep of the plot	Average
	(Very Good/Good/Average/Poor)	
11	Any other relvant observation by the JIT	Nursery not properly maintained
12	Whether NHM Logo displayed	no

Photographs of District Raigrah visit;











Korba District:

Korba District is located between latitude 22 degrees 1 minute to 23 degrees 1 minute and longitude 82 degrees 8 minutes to 83 degrees 9 minutes. Its height above the sea level is 304 metres. Korba District is situated in the northern half of the Chhattisgarh and surrounded by the districts Korea, Sarguja, Bilaspur, Janjgir etc. The headquarters of Korba District is situated around 200 kms from the capital city Raipur. The total area of the district is 7,14 , 544 hectares out of which 2,83,497 hectares account for forest land. In 2011, Korba had population of 1,206,640 of which male and female were 612,915 and 593,725 respectively. In 2001 census, Korba had a population of 1,011,823 of which males were 515,147 and remaining 496,676 were females.

Geography of Korba District includes several rivers and forests. The main river which is flowing through Korba district is the Hasdeo River that starts in the valley of Chota Nagpur. The total length of this river is 233 kms. Its tributaries are Gagechorai, Tan and Ahiran. Forests play an important role in the social and financial structure of Korba District. This district is rich in forest wealth. Korba District has two forest divisions Korba and Katghora. Korba District falls under the hot temperate climate zone and hence the district experiences very hot and dry weather. Summer season starts from April to mid June. Rainy season due to the South-West Monsoon is from mid June till the end of September. The average rainfall in the district is 1506.7 mm and normal rainfall is 1287.6 mm. Forests play an important role in the social and financial structure of Korba. This district is rich in forest wealth. Korba district has two forest divisions Korba and Katghora.

Forest Type	Area (in km ² .)
Protected Forest	1285.211
Unclassified Forest	851.259
Total	2136.470

Climate:

Korba District falls under the hot temperate climate zone and hence the district experiences very hot and dry climate. Summer season starts from April to mid June. Rainy season is due to the South-West Monsoon starting from mid June till the end of September. The average rainfall in the district is 1506.7 mm. and normal rainfall is 1287.6 mm.

District Map of Korba



Check list for reviewing progress on Area Expansion and Rejuvenation Activities under National Horticulture Mission (NHM) by joint Inspection Team

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Mohar Singh, Thakur diya Block-Kkorba, D-Korba (C.G.)
2	Total land available with the beneficiary (ha).	4 ha
3	Type of Protected cultivation activity (Hi- tech / Normal GH, Shade net, Plastic tunnel)	Bamboo shade net
4.	Year of establishment	2013-14
5.	Size of Structure (Sq. m)	200 sqm X 5
6.	Total cost	2,00,000/-
7.	Agency involved in fabrication and installation	ADH Korba (C.G)
8.	Total subsidy paid and date of payment.	-
9.	Crop being grown	Simla Mirch, Cole Gop, Chili
10.	Condition of Structure	Good condition
11.	Condition of Crop	Good
12.	Tie up with market	Local market
13.	General upkeep (Very good/ Good/ Average/ Poor)	Good
14	Any other relevant observation by JIT.	Progressive farmer visit

Check list for reviewing progress on Area Expansion and Rejuvenation
Activities under National Horticulture Mission (NHM) by joint Inspection Team

1	Name of the Address of Beneficiary	Mr. M.P. Naidu/ Birkona, B-
2	Total land available with beneficiary (ha.)	2 HA.
3	Crop cluster under which covered	Mango & Turmeric
4	Name and Variety of crop planted	Mango- Dashari, Langda, Turmeric-Roma
5	Source of planting material	Govt. Nursery, Pondripond & Beej nigam seed co. (C.G.)
6	Number of plants planted	Mango-100 Turmeric- 1 ha
7	Date of planting/rejuvenated	-
8	Number of plants witch survived (also	100%
	indicate percentage survival)	
9	Total amount of subsidy assistance due	10938-Mango
	to the beneficiary as Rs.	12500-Turmeric
10	Amount paid and date of payment	23438
11	Mode of payment	By Cheque
12	Source of irrigation (Borewell/ tube well/ canal)	Tube well
13	Whether Drip/Sprinkler system in use	-
14	Other input provided	Vermin pit
15	Whether assistance available for Organic farming	Vermin pit
16	If so, area covered	2 ha
17	Assistance availed	1
18	Available marketing facility for the crop	Local market
19	Other infrastructure are available in the vicinity	-
20	General unkeep of the plot: Very good/Good/average/Poor	Good
21	Any other relvant observation by the JIT	Progress farmer visit
22	Whether NHM Logo displayed	

Sr. No.	Details	Remarks
1	Name of the project	Cold storage
2	Year of Implementation	2012-13
3	Project Period	1 year

4	Name of Beneficiary	Naresh verma
5	Location of Project	Patodi, Block-Korba, DisttKorba (C.G)
6	Total Project Cost	4 Crore
7	Amount Released & date	1 Crore 20 lakh. July 2012
8	Expenditure incurred	1 Crore 20 lakh
9	Status	
	Capacity of unit	6500 MT
	Commodity	Potato, Tamarind, Mohua etc
	Equipments purchased	Through Govt. Agency
	Condition of infrastructure	Good condition
	Whether NHM logo displayed	Yes
	Whether funds disbursed to agency	yes

Sr. No.	Details	Remarks
1	Name of the project	Production of planting material
2	Year of Implementation	2013-14
3	Project Period	1 year
4	Name of Implementing Agency	ADH, Korba, Chhattisgarh
5	Location of Project	Govt. nursery Pandripond,
		Katghora, Korba (C.G)
6	Total Project Cost	6 Lakh 15 thousand
7	Amount Released by DAC	-
8	Expenditure incurred	-
9	Status of Project	
	Name of Nursery and crop for which	Govt. nursery Pandripond,
	plants are produced	Katghora, Korba (C.G)
		Mango, Guava, Custard apple,
		Anola etc.
	Name of crops for which seeds produced	Guava
	Quantity produced	Mango-10000, guava-5000
		Anola-2000 Custard apple-
		1500
	Quantity sold	-
	Rate	Mango-25, guava-15
		Anola-7, Custard apple-7
	Amount realized through sale	-
	Whether NHM logo displayed	yes

Sr. No.	Details	Remarks
1	Name of the project	Potato seed production
2	Year of Implementation	2013-14
3	Project Period	1/2 year
4	Name of Implementing Agency	ADH Korba, Chhattisgarh
5	Location of Project	Govt. Nursery, Nagoi Pondi uproda, Korba (C.G)
6	Total Project Cost	2331688.50
7	Amount Released by DAC	67000/-
8	Expenditure incurred	-
9	Status of Project	
	Name of Nursery and crop for which plants are produced	Govt. Nursery, Nagoi Pondi uproda, Korba (C.G)
	Name of crops for which seeds produced	Potato
	Quantity produced	-
	Quantity sold	-
	Rate	27.50
	Amount realized through sale	-
	Whether NHM logo displayed	yes

Sr. No.	Details	Remarks
1	Name of the project	Water Resources Development
2	Year of Implementation	2013-14
3	Project Period	1 year
4	Name of Implementing Agency	ADH, Korba (C.G)
5	Location of Project	Rajesh Kanwar Bulseehdeeh B- Korba Chhattisgarh

6	Total Project Cost	121000
7	Amount Released by DAC	-
8	Expenditure incurred Status	-
9	Current Status of Project	
	Dimension (L x B x W)	20X20X3 m
	Capacity	2 acre
	Command Area	2 acre
	Whether linked with new plantation or	New plantation
	old plantation	
	Whether funds disbursed	no

Sr.	Details	Remarks
No.		
1	Name & address of Beneficiary whose	Ram Dayal/ Manga singh
	field visited.	Navapara, Block-Rathia
		Kartala Korba (C.G)
2	Total land available with the beneficiary (ha).	1.214 Ha.
3	Crop Cluster under which covered.	Mango & Oil plam
4	Name & variety of crop planted.	Dashari
5	Source of planting material.	Got. Nursery Patiapali, Kartala, Korba & Ruchi
6	Number of planting material.	Soya mdusties Limited Bilaspur Mango-40 Oil Palm- 40
7	Number of plants planted/ rejuvenated.	0
8	Date of plants which survived	40 & 49 , 100%
	(also indicate percentage survival).	
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	10938/ ha
10	Amount paid and date of payment.	10938/ha. 20 august 2012
11	Mode of payment.	By cheque
12	Source of Irrigation Water	Tube well
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	Vermin pit
15.	Whether assistance available for Organic Farming	Vermin pit

16	If so, area covered	1.214 ha.
17.	Assistance available	1
18.	Available marketing facility for the crop.	Local Market
19.	Other infrastructure available in the vicinity.	Paul by farm
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Good
21.	Any other relevant observation by the JIT.	Progressive farmer visit

Korba District Photographs



