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Horticulture Mission

छत्तीसगढ़

Value Chain Study of Tomato Crop in Durg Chhattisgarh

2017 – 18

Under MIDH -Project

BY

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VALUE CHAIN STUDY OF TOMATO OF DURG, CHHATTISGARH

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LIST OF ACRONYMS

APEDA - Agricultural and Processed Food Products Exports Development Authority
ATMA - Agriculture Technology Management Agency
DAP - Diammonium Phosphate
DoAHDF – Department of Animal Husbandry, Dairying & Fisheries
FYM - Farm Yard Manure
GBY - Gramin Bhandaran Yojana
Ha. - Hectare
HMNEH - Horticulture Mission for North East and Himalayan States
INM - Integrated Nutrition Management
IPM - Integrated Pest Management
KVK - Krishi Vigyan Kendra
MoAFW – Ministry of Agriculture and Farmer Welfare
MOP - Muriate of Potash
NAIS - National Agriculture Insurance Scheme
NARP - National Climate Change Adaptation Research Plan
NFSM - National Food Security Mission
NHB - National Horticulture Board
NHM - National Horticulture Mission
NHM – National Horticulture Mission
NHRDF – National Horticultural Research and Development Foundation
NHRDF - National Horticultural Research and Development Foundation
PMFBY - Pradhan Mantri Fasal Bima Yojana
Qtl - Quintal
RGM - Rashtriya Gokul Mission
RKVY - Rashtriya Krishi Vikas Yojana
RRB - Regional Rural Bank
SSP - Single Super Phosphate

1. Introduction

1.1. Project Background

Vegetables occupy hardly 2% of the total cropped area of the country which is considerably low in view of needs of the nation seeing the growth and consumption patterns. Hence, it is of utmost importance that the production and productivity of vegetables is increased to meet the demand of growing population to ensure better nutrition by adopting improved technology. An increase of 2.5% per year in vegetable production is also necessary. Present production of 1.5 MT of vegetable supply fulfils only 145 g per capita per day against recommended requirements of 300 grams[1]. India, owing to its diverse agro climatic zones and distinct growth patterns and zones for specific fruits and vegetables necessitates a focused and pinpointed approach in devising plans for particular commodities in particular clusters so as to leverage the natural resources aptly. Under the aegis of Ministry of Agriculture and Farmer Welfare, Department of Agriculture, Cooperation & Farmers welfare (Horticulture Division), The National Horticultural Research and Development Foundation (NHRDF), New Delhi has mandated the Food and Agribusiness Strategic Advisory and Research division of YES BANK Limited to conduct a detailed value chain assessment for Tomato crop in Durg district in the state of Chhattisgarh.

About National Horticultural Research and Development Foundation (NHRDF)

NHRDF was established on 3 November 1977 and registered under the 'Societies Registration Act, I860' XXI at Delhi. The Head Office of NHRDF is located at "Bagwani Bhavan", 47, Pankha Road, Institutional Area, Janakpuri, New Delhi. The NHRDF is a voluntary centre of All India Coordinated Research Project on Vegetable Crops and All India Network Research Project on Onion and Garlic of the Indian Council of Agricultural Research.

NHRDF is also a National Level Agency under Mission for Integrated Development of Horticulture and National Vegetable Initiative for Urban Cluster, of Department of Agriculture and Cooperation, Ministry of Agriculture and farmer welfare, Government of India, New Delhi. The NHRDF provide services to the farmers through research and developmental activities such as seed production of different crops especially vegetable crops, vermicompost, and bio pesticide production and its distribution and laboratory services. Through these services some revenues are generated to build up revolving fund for further expansion of research and development activity by NHRDF. The research and developmental programmes were initially started on onion and later on garlic was included in the mandate crops. In view of vast export potential, the NHRDF has also extended its R&D programmes on some other export-oriented vegetable crops like Okra, Tomato, French beans, Cowpea, Chili and Drumstick.

[1] *An Economic Study of Production and Marketing of Tomato in Durg District of Chhattisgarh, Lokeshwar Sahu, Department of Agricultural Economics & Farm Management, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur College of Agriculture, Tikamgarh (M.P.) 2016*

NHRDF Mandate

✓	Undertake / conduct research or provide facilities in research and scientific investigations for the growth and development of varieties of different export oriented horticultural crops
✓	Establish institutes, laboratories, research centres, model farms, and study teams for promoting better quality and higher yield of horticultural produce, better packaging, suitable transportation and shipping to improve the shelf life of the produce and conduct experiments and provide funds for such research work and to educate farmers and disseminate technical know-how and results derived by conducting training programmes, seminars, farmer's meets etc.
✓	Investigate and conduct research experiments for assessing demands of the horticultural produce of the Indian origin in foreign countries by conducting extensive survey and undertake research and development of horticultural produce with export potential and to motivate farmers to grow such varieties of horticultural produce with the object of further developing horticultural exports from India
✓	Prepare, edit, print, publish and circulate books, research papers and periodicals bearing upon the growth and development of horticultural produce or other scientific and research activities connected therewith, and to establish and maintain collections, libraries, statistics, scientific data and other information relating thereto
✓	Conduct all aspects of scientific research and developmental activities in the field of horticulture or otherwise conducive to the objectives of the NHRDF provided that none of the activities of NHRDF will be undertaken for profit nor shall it involve any profit motive. However, the NHRDF may receive nominal service charges, wherever found necessary in the interest of maintaining financial stability of the NHRDF
✓	The NHRDF shall provide extended services to the farmers in the form of research and developmental activities such as seed development, vermicompost, bio-pesticide production and distribution and other laboratory services for which NHRDF may collect revenue from the farmers so as to establish a revolving fund or credit to corpus fund for further expansion of research and developmental activities

1.2. Objectives

The specific objectives of the value chain analysis were as follows:

Detailed value chain studies are to be mandated in respective clusters for specific crops considering the parameters (but not restricted to) below:

- To map the movement of price and journey of the raw materials from farmers to commission agent, traders, exporters, processors, wholesalers, retail chains and ultimately to the end consumer
- To identify specific gaps and lacunae in the value chain of tomato crop in Durg
- To provide suggestions and recommendations to strengthen the value chain of tomato in Durg district leading to better price realization and increase in farmer income.

1.3. Scope of Work

- Assessment of the entire value chain of Tomato crop in Durg district of Chhattisgarh

- ❖ Production and post-production practices
  - Land Preparation & Holding
  - Cropping Pattern and Seasonality
  - Cost of production and Post-Harvest Management Practices - Inputs, Seed, Planting Material, Fertilizer, Labour Cost, and Transportation etc.
  - Overall crop economics
- ❖ Price fluctuations
- ❖ Forward and backward linkages
- ❖ Markets, channels, stakeholder players and margins
- ❖ Logistical Channels
- ❖ Losses and Price mark-ups
- ❖ Infrastructure Availability in the region
- ❖ Identification of challenges and gaps in the value chain
- ❖ Existing scenario of Training & Capacity Building
- ❖ Availability of Credit & Extension Services
- ❖ Key recommendations to strengthen the Tomato value chain

1.4. Approach and Methodology

- ❖ The study as explained above required in-depth value chain analysis of "specific commodity" in "specific cluster" in term of deeper understanding of production, intermediation, product flow, value addition at each level, wastages at each level, price mark-up, roles being played by each value-chain player as well as factors affecting the value chain (pre-harvest operations, post-harvest management, procurement, handling infrastructure, logistics, marketing & sales, services, technology, human resources management) including climate change, developing strategies, backward & forward linkages, capacity building, access to funds etc.
- ❖ In order to achieve the desired objectives of the assignment, YES BANK proposed to follow a judicious approach of study, wherein both wider and deeper understanding of the Tomato value chain can be captured. Therefore, the study will be based on combinations of research methods including:

Secondary research and Literature Review

- ➢ This step served as a preface of the study, providing basic understanding of the cluster (Durg District) and state overall thereby helping in development of the approach for detailed value chain study. The secondary information helped in understanding the onion crop profile including climatic conditions, area, production volumes, seasonality, post-harvest infrastructure, markets, market arrivals & prices,

marketing infrastructure, logistics, storages available for specific crops in specific markets. Relevant data was collected from National Horticultural Research and Development Foundation (NHRDF), National Horticulture Board (NHB), National Horticulture Mission (NHM), Chhattisgarh State Horticulture Mission Agency, District Horticulture Department, Block APMC, Agricultural and Processed Food Products Exports Development Authority (APEDA), Other datasets

Primary Research

- Interactions were with all the stakeholders in the identified cluster and the region helped to gather information on the situation of horticulture across the onion value chain. This led to finding out the gaps and suggestions provided by all the stakeholders
  a. Face to face interviews of onion growing farmers
  b. Intermediary stakeholders such as Commission Agents, Wholesalers, Exporter, Retailers), Inputs supplier, Food Processors,
  c. Government Officials such as APMC, district Horticulture Department etc.

Figure 1: Approach & Methodology – Value Chain Assessment of Tomato Crop in Durg, Chhattisgarh

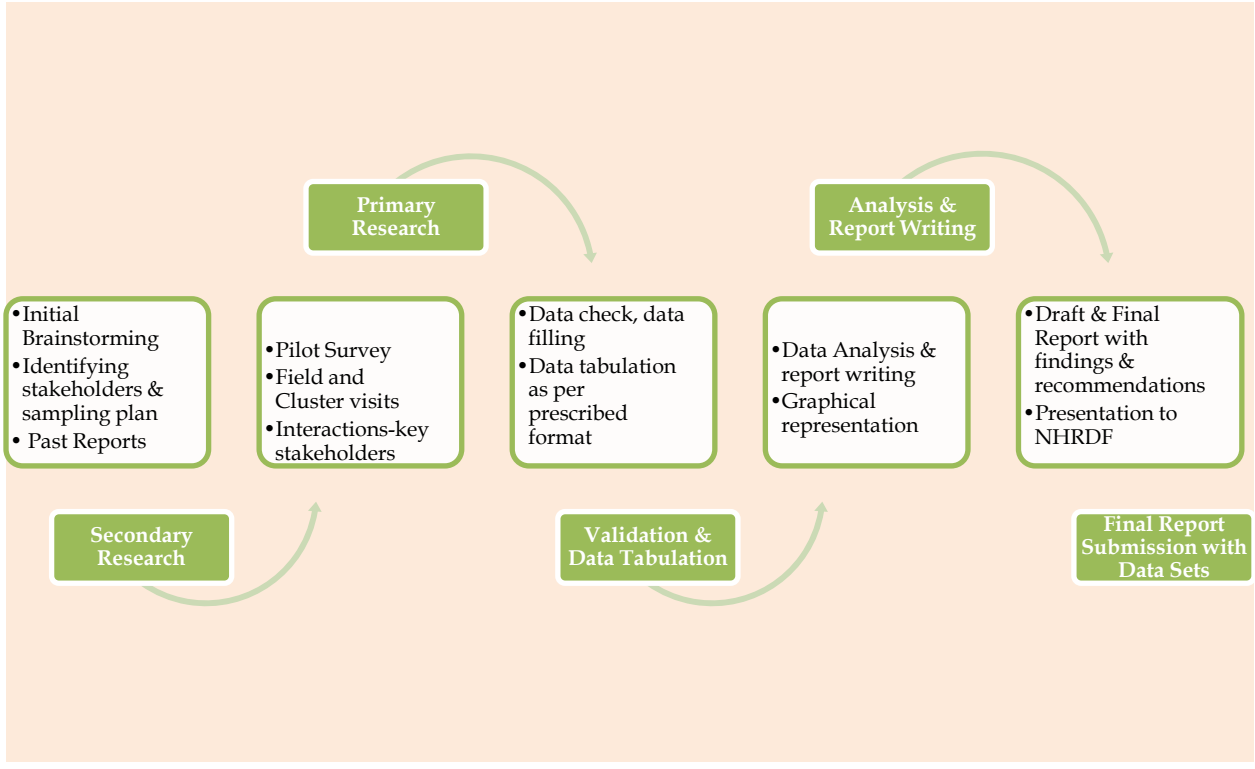


Table 1: Sample coverage in Durg District - Block & Village Wise

Name of Block	Name of Villages	No. Of farmers
DHAMDHA	Barhapur	10
	Danni kokakdi	10
	Jatagharra	10
	Kanharpuri	10
	Kareili	10
	Parsuli	10
	Pendri	10
DURG	Arasnara	10
	Bhotali	10
	Borai	10
	Jhola	10
	Karnja bhilai	10
	Nagpura	10
	Tirga	10
PATAN	Dev baloda	10
	Funda	9
	Ghughava	10
	Khudmuda	8
	Rabeli	10
	Sirsakala	10
	Somni	6
Total farmers	-	**203**
Total mandi traders	-	**14**
Seed/input suppliers	-	**8**
Wholesalers		**14**
Retailers		**14**
Processors		**1**
TOTAL SURVEYED		**254**

Note: *All data presented in this report is based on primary survey conducted in the study region between 1st -15th Sept, 2017*

2. Study Region

2.1. Overview of Chhattisgarh

Chhattisgarh is a state in Central India. It is the 10th largest state in India with an geographical area of 137, 90 thousand ha. Chhattisgarh stretches across the latitudinal expanse of 17°46' to 23°15' North on one hand to the longitudinal meridian of 80°30' to 84°23' East on the other. Chhattisgarh is the 16th most-populated state of the nation. It is a source of electricity and steel for India. Chhattisgarh accounts for 15% of the total steel produced in the country. The state was formed on 1st November 2000 by partitioning 16 Chhattisgarhi-speaking south-eastern districts of Madhya Pradesh. Raipur was made its capital. Chhattisgarh borders the states of Madhya Pradesh in the north-west, Maharashtra in the south-west, Andhra Pradesh in the south, Odisha in the east, Jharkhand in the north-east and Uttar Pradesh in the north. The state is divided into 27 districts. Raipur, Bhilai, Durg, Bilaspur, Korba and Rajnandgaon are the major of Chhattisgarh cities.

2.2. Geographical Features

Geographically, Chhattisgarh is divided into three distinct land areas viz. –

i. Chhattisgarh Plains,
ii. Bastar Plateau and
iii. Northern Hill Zones.

In the north of the state are the mighty Satpura Ranges, in the centre 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 and Jharkhand in the North East, Odisha in the East, Andhra Pradesh in the South and South East, Maharashtra in South West and Madhya Pradesh in the West.

2.3. General Climatic Features

The general climate of Chhattisgarh state is dry sub-humid type. The average annual rainfall of the region is around 1400 mm and about 90 to 95% of this amount is received during South-West monsoon season (June-October). The monsoon sets in around 10th June at the tip of the Bastar area and covers the entire area by 25th June. Months of July and August are the wettest months. Three Rainfall occurs in the month of October 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 sets in from mid-November when the average minimum temperature starts falling below 150C. The northern districts especially Sarguja division has more severe and longer winter period as compared to the southern parts.

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. The climatic conditions with annual rainfall and temperature condition is very conducive for

growing various horticultural crops. The shorter period of winter season in most part of the state is very favourable for growing frost prone crops.

2.4. Agro-Climatic Zones

Agro-climatically, Chhattisgarh may be divided into 3 distinct agro climate zones with immense potential of horticulture development.[2]

Table 2: Agro Climatic Zones - Chhattisgarh State

S. No.	Agro-climatic Zone	Districts
1.	Chhattisgarh Plains	Raipur, Gariyabandh, Baloda Bazar, Mahasamund, Dhamtari, Durg, Bemetra, Balood, Rajnandgaon, Kabirdham, Bilaspur, Mungeli, Korba, Janjgir and part of Kanker district (Narharpur & Kanker block) along with part of Raigarh district
2.	Bastar Plateau	Jagdalpur, Kondagaon, Dantewada, Bijapur, Narayanpur and remaining part of Kanker district.
3.	Northern Hills	Surguja, Surajpur, Balrampur, Koriya and Jashpurnagar and Dharamjaigarh Tehsil of Raigarh district.

2.5. Demographic Characteristics

The total population of Chhattisgarh state as per 2011 census is 2,55,45,198 of which male and female are 50.24% and 49.76% respectively. In Chhattisgarh state sex ratio per 991 over 1000 males and density of population 189 per sq. km. Literacy rate has seen 70.28% with male literacy of 80.27% and female literacy of 59.58%. The majority of the population of Chhattisgarh lives in rural areas (76.76%) as compared to urban population (23.24%). In actual numbers of males and females were 1,28,32,895 and 1,27,12,303 respectively. The Scheduled Caste population consists of 11.61% of the total population and Scheduled Tribe population constitutes 31.80% population of the state. The tribal population of the state primarily depends on the forest based resource and kitchen garden (*Badi*) for their livelihood.

The total working population belongs to cultivators (49.45%) followed by others (26.30%), agriculture labour (22.00%) and household industry workers (2.25%). The total rural working population was found to be maximum in the rural areas (83.40%) as compared to the urban areas (16.60%). In rural areas the maximum working population related of cultivators (58.54%) followed by agriculture labour (25.74%), other (13.73%) and household industry workers (1.99%), while in urban areas contributed of other workers (89.50%) was found to be maximum followed by cultivators (3.76%), household industry workers (3.59%) and agriculture labour (3.16%).

2.6. Status of Horticulture in Chhattisgarh State

Chhattisgarh has often been dubbed rice bowl of Central India, 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, Soybean, Niger and Sunflower are also grown. Yet productivity is not very high. This brought a new thrust in the sector of Horticulture, as the region is also suitable for growing Mango, Banana, Guava and other fruits and a variety of vegetables.

Chhattisgarh produces 1,03,10,452 MT of horticultural produce from an area of 862330 Ha and accounts for more than 3% of horticultural production in the country. Major share of production of horticulture produce is from vegetables (66%) and fruits (25%). 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 promoting horticulture in intensive mode.

Table 3: Provisional Area, Production & Productivity of Horticultural Crops in Chhattisgarh (2017-18)

S. No.	Crops	Area (Ha)	Production (MT)	Productivity, (MT/Ha)
1	Fruits	2,61,132	26,21,475	10.04
2	Vegetables	4,77,753	68,38,445	14.31
3	Spices	1,01,304	7,26,115	7.17
4	Flowers	13,383	62,485	4.67
5	Medicinal & Aromatics	8,758	61,932	7.07
	Total	**8,62,330**	**1,03,10,452**	**11.96**

A. Fruit Crops

The major fruit crops grown in Chhattisgarh state are Mango, Cashew-nut, Guava, Banana, Papaya, Lime, Jack fruit, Litchi, etc. Apart from these major fruit crops minor fruits like Sitafal, Bael, Ber, Anola, Sapota etc., are also grown both as cultivated and wild crop. The total area of the fruit crops in the state is estimated 261132 Ha along with the production of 26,21,475 MT in the year 2017-18.

Agro climatically Mango can be grown in the whole part of the state successfully while the northern hilly area of Sarguja and Jashpur district is suitable for production of Litchi. Cashew nut can be grown well in the plateau region of Bastar & Raigarh district.

B. Vegetables

Mostly all vegetable crops like Potato, Tomato, Brinjal, Okra, Cucurbits, Beans, Cabbage, Cauliflower etc., are grown very well in the state. The total area of vegetable crops in the state is estimated 4,77,753 Ha in the year 2017-18 with the production of 68,38,445 MT.

C. Spices

Chili, Ginger, Garlic, Turmeric, Coriander & Methi are the major spices grown in the state. The total area of spices in the year 2017-18 is estimated 1,01,304 Ha with the production of 7,26,115 MT.

D. Flowers

Area under flower cultivation is negligible in the state. 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 Marigold, Tuberose, Gladiolus, Roses, Gaillardia, Chrysanthemum, etc. can be grown very well with little effort. Gerbera, Orchid and Anthurium and other flower crop which are being cultivated in open condition. The present area under floriculture in the state is 13383 Ha with the production of 62485 MT approximately in the year 2017-18.

E. Aromatic & Medicinal Plants

The medicinal crops grown in the state are Ashwagandha, Serpagandha, Satawar, Butch, Aonla, Tikhur etc. Some aromatic crops like Lemongrass, Pamarosa, Jamarosa, Patchauli, E.citridora and Vitever (Kus) are promoted by the department for commercial cultivation among farmers. The present area of aromatic and medicinal crops in the state is 8758 Ha with the production of 61932 MT in the year 2017-18.

In Chhattisgarh rice is the main crop grown in state and of the three agro-climatic zones, about 73 percent area in Chhattisgarh plains, 97% in Bastar plateau and 95% area in northern hills are rain fed. Crop diversification and selection of appropriate site for crop cultivation can bring a major breakthrough not only in productivity but also in economic upliftment of small & marginal farmers. Paddy should be replaced from upland where it gives only nominal yield. Horticultural crops are the best alternative for crop diversification. Looking to the scenario State Govt has identified and prioritize horticultural crops district wise for promotion and intensive cultivation.

Table 4: District wise prioritization of crops[3]

S. No.	Crops	Districts Selected
A. FRUITS		
1	Mango	Raipur, Balodabazar, Gariyaband, Rajnandgaon, Raigarh, Korba, Kabirdham, Jashpur, Durg, Bemetra, Balod, Bilaspur, Sarguja, Surajpur, Balrampur, Mungeli, Korea, Jagdalpur & Kondgaon
2	Banana &	Raigarh, Durg, Jashpur, Gariyaband, Kondagaon, Mungeli, Raipur,

[3] *Road Map & Annual Action Plan submitted by District Mission Committees, March 2013*

	Papaya	Balod, Rajnandgaon, Bilaspur, Bemetra & Balodabazar
3	Guava	Korba, Durg, Jagdalpur, Bemetra, Kabirdham, Balodabazar, Kondagaon, Mungeli, Balod & Bilaspur
4	Lime	Sarguja, Balodabazar, Raipur, Mungeli, Balod, Bilaspur, Rajnandgaon, Gariyaband & Surajpur
5	Cashew-nut	Raigarh, Jagdalpur, Jashpur, Kondagaon & Balod
6	Litchi	Jashpur, Sarguja, Surajpur & Balrampur
7	Custard apple	Korba & Rajnandgaon
8	Ber (Plum)	Kabirdham & Korba
9	Nashpati (Pear)	Surajpur, Balrampur & Sarguja

B. **VEGETABLES**		
1	Brinjal	Durg, Korba, Jagdalpur, Jashpur, Sarguja, Kabirdham, Balodabazar, Bemetra, Kondagaon, Raipur, Mungeli, Balod, Bilaspur, Rajnandgaon, Gariyaband, Surajpur & Balrampur
2	Tomato	Raigarh, Durg, Jashpur, Sarguja, Jagdalpur, Bemetra, Balodabazar, Kabirdham, Raipur, Kondagaon, Mungeli, Balod, Bilaspur, Surajpur & Rajnandgaon
3	Okra	Korba, Jagdalpur, Kabirdham, Balodabazar, Gariyaband, Kondagaon & Raipur
4	Cauliflower	Raigarh, Durg, Jagdalpur, Sarguja, Jashpur, Balodabazar, Bemetra, Raipur, Kondagaon, Rajnandgaon, Gariyaband & Surajpur
5	Cabbage	Durg, Jagdalpur, Sarguja, Jashpur, Bemetra, Balodabazar, Kondgaon, Raipur, Gariyaband & Surajpur
6	Bottle gourd	Durg, Bemetra, Mungeli, Bilaspur, Korba, Balod & Rajnandgaon
7	Bitter gourd	Mungeli & Bilaspur
8	Potato	Korba, Raigarh, Sarguja, Jashpur, Surajpur, Balrampur, Mungeli & Bilaspur
9	Parwal	Raigarh
10	Colocassia	Kabirdham
11	Capsicum	Balod & Bemetra
12	Onion	Sarguja, Surajpur & Balrampur
13	Cluster Bean	Durg, Bemetra & Balod

C. **SPICES**		
1	Chili	Raipur, Balodabazar, Gariyaband, Rajnandgaon, Raigarh, Korba, Kabirdham, Jashpur, Durg, Bemetra, Balod, Bilaspur, Sarguja, Surajpur, Balrampur, Mungeli, Korea, Jagdalpur & Kondgaon
2	Ginger	Korba, Raigarh, Durg, Sarguja, Jagdalpur, Jashpur, Kabirdham, Balodabazar, Kondgaon, Raipur, Mungeli, Balod, Bilaspur, Surajpur & Balrampur
3	Coriander	Raigarh, Korba, Durg, Jashpur, Jagdalpur, Bemetra, Kabirdham, Kondagaon, Mungeli, Bilaspur & Balod

4	Turmeric	Korba, Jagdalpur, Sarguja, Jashpur, Kondagaon, Balod, Surajpur & Balrampur
5	Garlic	Mungeli & Bilaspur

D. **FLOWERS**		
1	Marigold	Raigarh, Korba, Sarguja, Jagdalpur, Kabirdham, Balodabazar, Raipur, Kondagaon, Gariyaband, Surajpur, Balrampur & Rajnandgaon
2	Gladiolus	Durg, Sarguja, Jagdalpur, Bemetra, Balodabazar, Kondgaon, Raipur, Balod, Surajpur & Balrampur
3	Rose	Rajnandgaon, Korba, Durg, Sarguja, Jagdalpur, Bemetra, Kondagaon, Balod, Surajpur & Balrampur
4	Tuberose	Sarguja, Kondagaon, Raipur, Surajpur & Balrampur
5	Gerbera	Durg, Bemetra & Balod
6	Jasmin	Korba

2.7. Overview of Durg District

District Profile

Durg district is one of the densely populated districts of the Chhattisgarh state of India. Durg district is located in the west central part of Chhattisgarh State. Area of district Durg is 8535.00 Sq. Km. The total geographical area of the district is more than 2.32 lakh hectare. The district lies between 20°54' and 21°32' north latitude & 81°10' and 81°36' east longitude. The district is 317 meters above mean sea level. The district is bounded by Bemetara district in the north, Rajnandgaon district in the west, Balod district in the south, Dhamtari district in the south east and Raipur district in the east. Durg consists of 3 blocks. 3 Tehsils, and I sub-division.

Soil and Topography

District has four different types of soils Bhata, Matasi, Dorsa and Kanhar. Bhata soil also known as lateritic soil mainly rich from gravels, sand and iron. Matasi soils are also known as sandy loam humus rich soil and best for horticultural 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 36.19 % of the cultivated land.

Table 5: Type of Soils in Durg District[4]

Type	Area ('000 Ha)	Percentage of Total
Entisol (Bhata gravely)	81.1	15.00
Inceptisol (Matasi Sandi loam)	114.8	21.19
Alfisol (Dorsa-clay loam)	95.7	17.66
Vertisol (Kanhar-clay)	157.5	29.08
Loam	92.5	17.07

Rivers

The general slope of the district is towards the north-east in which direction the major streams of the district flow. Shivnath is main river of District Durg. Shivnath River is tributary of Mahanadi River. Shivnath River originates from Mountain at height of 625 meter at Panabaras situated in south western parts of Rajnandgaon and flows towards north east direction. Shivnath River measures in length about 345 km. City Durg is situated on east bank of Shivnath River.

Climate and Rainfall

The climate of district is moderate but on a warmer side in summer season tilting towards the tropical type. Summer is a little bit hotter. In summer the temperature goes to a maximum of 43-45 °C. Winters see the temperature falling to 12 °C. Average rain fall is around 1024 mm per

[4] *Directorate of Agriculture, 2009, Govt. of Chhattisgarh*

year. During the year, most rainfall occurs during the monsoon months June to September. July is the month of highest rainfall.

Population distribution

As per Census 2011 (provisional), the population of the district is 3343872. In which 2059107 is rural population and 1284765 is urban population**.** The density of population in rural areas is very high as compared to urban area. The population of scheduled caste and scheduled tribe constitute 13.69 and 11.88% respectively of the total population.

Table 6: Demographical Feature of Durg District[5]

S.No.	Particulars	Numbers
1	Total Population	33,43,872
2	Total Male	16,82,101
3	Total Females	16,61771
4	Rural Population	20,59,107
5	Urban Population	12,84,765
6	Schedule Caste	4,58,040
7	Schedule Tribe	3,97,416
8	OBC & Others	24,88,416
9	Agriculture Labour	5,60,415

Demographics

According to the 2011 census, Durg district has a population of 3,343,079.This gives it a ranking of 100th in India (out of a total of 640 districts). The district has a population density of 392 inhabitants per square kilometer (1,010 /sq. mi). Its population growth rate over the decade 2001- 2011 was 18.95% .Durg has a sex ratio of 988 females for every 1000 males, and literacy rate of 79.06%.

Land use pattern

The district has total geographical area of 8, 70,100 hectares. About 14.30% area was covered by the forest. The district has 4.45% land not available for cultivation and 14.7% fallow land of the total geographical area of the district. The net and gross cropped area is about 63.01% and 34.90% respectively of the total geographical area of the district. The cropping intensity is 135% only. The average size of holding in the district is 1.6 Ha. In the district about 36% of the total areas of land holding are in the categories of medium and large farms. The classification of land

[5] *District Census Handbook 2014, Chhattisgarh*

reveals that in almost in the district about 64% of the total number of land holdings in categories of marginal and small farms. The average land holding of farmers in the district is around 1.06 Ha.

Table 7: Land Use Pattern of Durg District[6]

S. No.	Particulars	Durg District (Ha)
1	Total geographical area	870.10
2	Area under forest	99.60
3	Cultivated area	548.30
4	Land under non agriculture used	90.70
5	Barren and uncultivated land	38.80
6	Permanent pasture and other grazing land	61.40
7	Cultivable waste land	0.00
8	Current fallow land	14.70
9	Land under misc. tree crops and groves	0.20
10	Cropping intensity	143.00

Water Resources

The net irrigated area covers only 62% of the total net cropped area, there by indicating active water scarcity in the district for agriculture purpose. Most of the open wells also go dry during summer months. Major source of irrigation are canals and tube-wells.

Table 8: Water resources in Chhattisgarh and Durg district[7]

S .No.	Source of irrigation	Chhattisgarh		Durg District	
		Area (in Lakh Ha)	%age	Area (in Lac Ha)	%
1	Canal	8.76	70.13	1.72	53.59
2	Tanks	0.53	4.24	0.03	1.27
3	Tube –wells	2.06	16.50	0.92	38.82
4	Wells	0.35	2.81	0.02	0.84
5	Other Source	0.79	6.32	0.13	5.49
	Total	**12.49**	**-**	**2.37**	**-**

Transport and Communication

The district is well interconnected by roads. The National Highway No. 6 traversing the district is the Mumbai-Calcutta G.E. Road. Other important roads of district are Durg-Dhamdha-Bemetara Road. Kawardha-Bemetara- Simga Road, Kumhari-Patharia Road, Rajnandgaon-Antagarh Road, Durg-Utai Road etc. Durg town is favorably situated on the main line of the

[6] *Agricultural Statistics, 2009, Commissioner of land records, Raipur, Govt. of Chhattisgarh*
[7] *District Statistical Book (Year Book) 2011, Office of the District Planning and Statistics, Durg district (C.G.).*

South Eastern Railway midway between Mumbai-Calcutta. The main railway line cuts across the District at its narrowest width, the total length of the line being only 17 Km.

Status of Horticulture in Durg District

Durg produces **9,55,238** MT of horticultural produce from an area of **53,203** Ha and accounts for more than 9% of horticultural production in the state. Major share of production of horticulture produce is from vegetables (66.30%) and fruits (25.40%). The average productivity of horticultural crops in the district is nearly 18 MT/Ha and found higher than state level productivity (12 MT/Ha).

Table 9: Provisional Area, Production & Productivity of Horticultural Crops in Durg (2017-18)[8]

S. No.	Crops	Area (Ha)	Production (MT)	Productivity, (MT/Ha.)
1	Fruits	6509	134426	20.65
2	Vegetables	40825	777096	19.03
3	Spices	5229	41291	7.897
4	Flowers	640	2425	3.789
5	Medicinal & Aromatics	0	0	0
	Total	**53203**	**955238**	**17.95**

In terms of area share, vegetable crops in the district occupy nearly 76% of total horticulture area followed by fruits (12%), spices (10%) and flowers (1%). In terms of production contribution, vegetable crops contributes more than 81% in the horticulture production basket of the district followed by fruits (14%), spices (4%) and flowers (0.25%).

The total area of vegetable crops in the district state is estimated 40,825 Ha in the year 2017-18 with the estimated production of 7,77,096 MT. Durg district produces mostly all vegetables however Tomato, Brinjal, Cabbage, Cauliflower are the major and contributes more than 50% (each) in area and production of the district. Tomato contributes nearly 26% (2,00,000 MT) in the vegetable production basket of the district from estimated area of 10,000 Ha. The productivity of tomato crop in Durg is 20 MT/Ha. which is found higher to state average of 16.42 MT/Ha. Though Tomato is cultivated throughout the district but Dhamdha and Durg are major blocks in terms of production. The district has abundant marketable surplus of Tomato and in main season (December to March) supplies to outside state like Odisha, Karnataka, Maharashtra, Delhi. However, in the month of June to August Tomato comes from Karnataka and after that from September to October comes from Maharashtra.

[8] *Directorate of Horticulture & Farm Forestry, Chhattisgarh*

- Tomato is one of the most important protective food crops of India. In Chhattisgarh, total production of tomato is 868.60 ('000) MT from an area of about 52.89 ('000) Ha.[9]
- Chhattisgarh accounts for about 4.98% of the total production of Tomato in the country. The productivity of tomato crop in Chhattisgarh is 16.42 MT/Ha. which is found lower to all India average of 21.99 MT/Ha. The major tomato producing districts are Raipur, Durg, Bastar, Balod and Jaspur. In Chhattisgarh, total production of tomato is 11,33,435 MT from an area of about 64,681 Ha (2017-18). The major tomato producing districts are Raipur, Durg, Bastar, Balod and Jaspur.

Table 10: Block-wise Major Production Clusters (Villages) of Tomato in Durg District

S. No.	Blocks	Villages
1	Durg	Chikhli, Ganiyari, Kachandur, Khapri, Kodiya, Kotni, Mohlai, Karnja Bhillai, Chandkhuri, Achoti, Albaras, Arasnara, Kumhari, Kuthrail, Vinayakpur
2	Dhamdha	Bori, Jagatgharra, Parasbodi, Khapri, Akoli, Acholi, Basani, Kanharpuri, Pandri, Khilloro, Roha
3	Patan	Phunda, Achanakpur, Ameri, Bendri

[9] *National Horticulture Board, 2015-16*

3. Analysis of Primary Survey

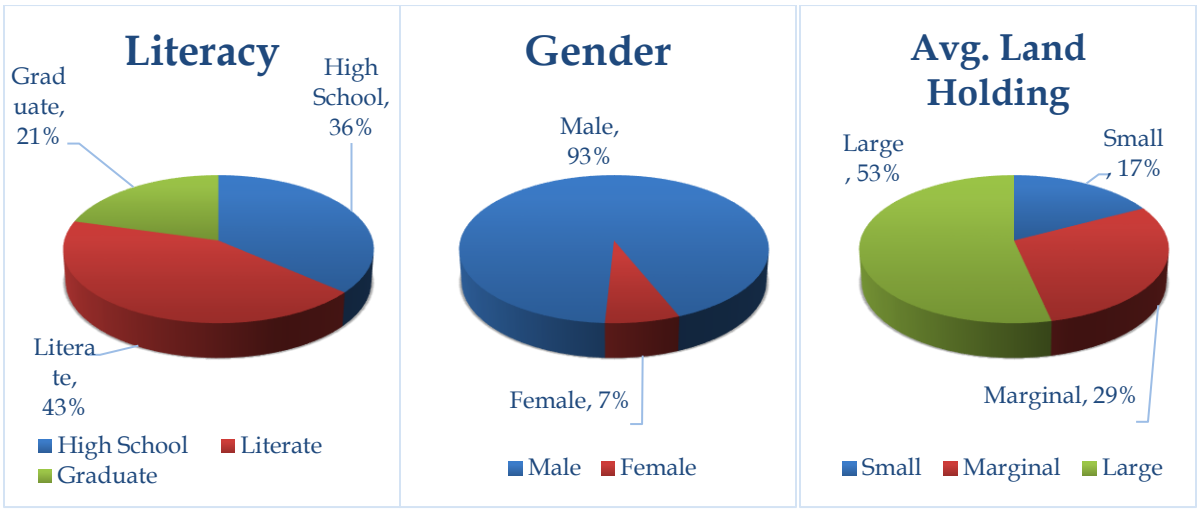
3.1. Stakeholder Profile

Producers

Majority of Tomato growers in the district belongs to small and marginal category (approx. 70%) followed by medium (approx. 20%) and large farmers (approx. 10%).

- ✓ **Literacy Rate**: As per the primary survey, 42% of the farmers surveyed were found to be illiterate followed by farmers having passed high school at 36% and only 21% having passed graduation during their education years
- ✓ **Gender**: Majority of the farmers surveyed were male accounting to almost 93% of the total sample size
- ✓ **Land Holding Size**: In terms of land holding, more than half of the farmers surveyed (~53%) fell into the large farmer category (>2 Ha.), followed by Marginal category farmers (1-2 Ha.) and small holder farmers (< 1 Ha.) amounting to the balance 17% of the farmers surveyed
- ✓ **Average years of growing Tomato**: The average number of years the farmers had been involved in tomato cultivation in the region came to about ~ 11 years

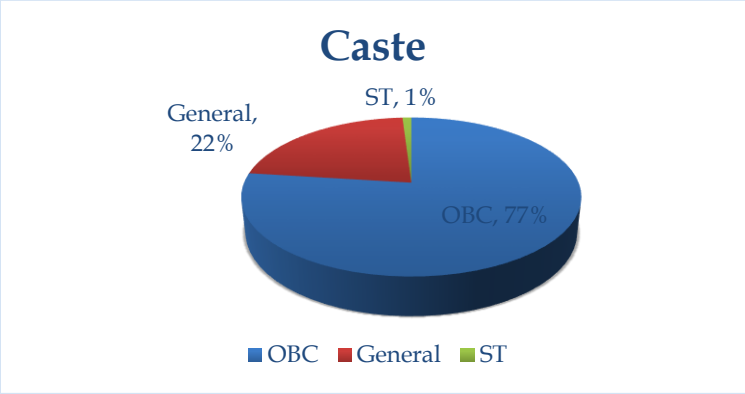
Figure 2: Tomato Farmer Profile - Literacy, Gender and Average Land Holding



Source: Primary Survey

- ✓ Average land irrigated per farmer held land is 94% with the major source of irrigation being wells/tube wells accounting to ~97% of the total irrigation. The balance 3% is amounted to by canals/tanks/wells.
- ✓ High costs and frequent floods were cited to be the major reasons for non-usage of micro irrigation and other advanced irrigation models.

Figure 3: Tomato Farmer Profile - Caste



77% of the respondents were found to belong to the OBC category, followed by General Category contributing to 22% while the Scheduled Caste/Scheduled Tribes contributed to only 1% of the total sample surveyed.

Source: Primary Survey

3.2. Seasonality of Tomato

SEASON	Jan	Feb	Mar	April	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.
KHARIF TOMATO												
Transplanting												
Sowing												
Harvesting												
RABI TOMATO												
Transplanting												
Sowing												
Harvesting												

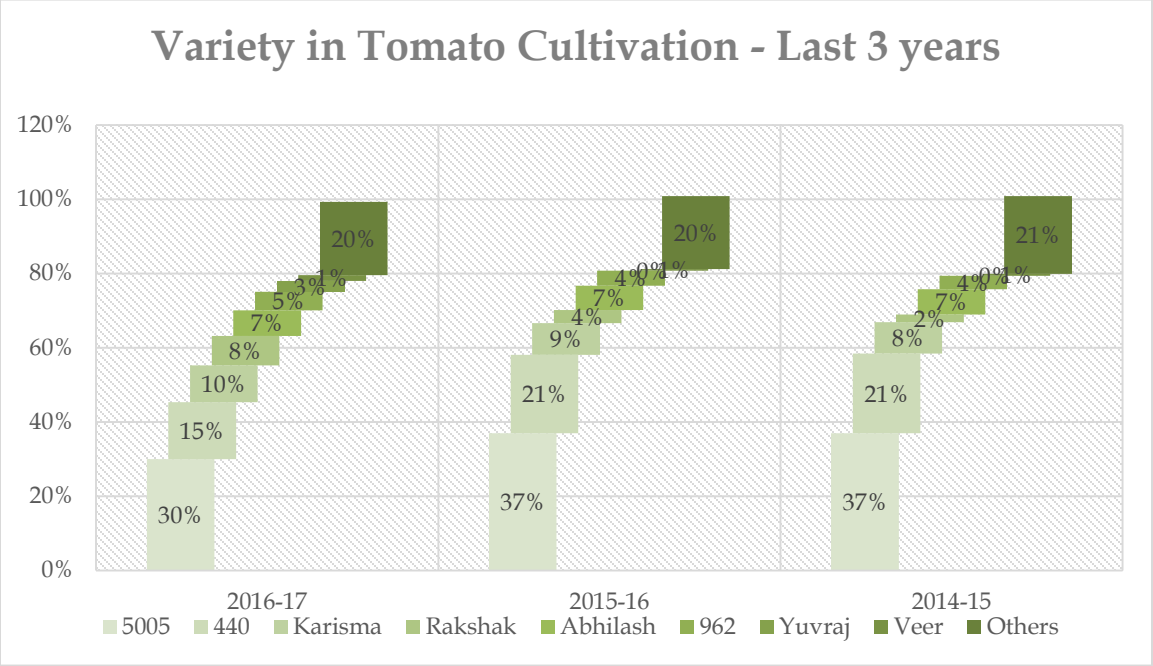
3.3. Production practices

Seed

The seed rate is 0.18 Kg/Ha. In the Kharif season, the transplanting takes place between June and July and sowing taking place till late August. In Rabi, transplanting is done between Sept-Oct with the harvesting lasting till November.

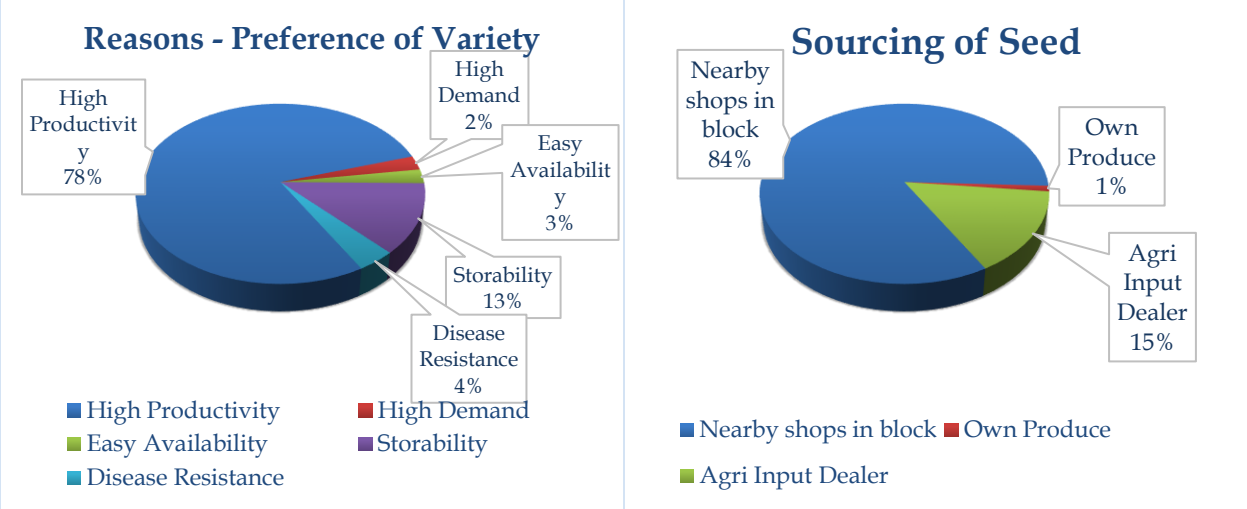
Laxmi Brand 5005 is one of the majorly preferred variety of tomatoes followed by Brand 440.

Figure 4: Variety of Seed used in Tomato Cultivation – 2016-17, 2015-16, 2014-15



Source: Primary Survey

78% of the respondents cited High productivity as the reason for preferring Laxmi 5005 brand of seed. The produce from these seeds has high storage and shelf life as well.



Source: Primary Survey

Land Preparation

Tomato farmers in Durg were found to make use of long running practices as well as adapting to new practices of land preparation for sowing in terms of Nursery Preparation, Levelling of land, Ploughing, Bed Preparation as well as Transplanting to main farm.

Table 11: Tomato Farmer Profile - Operations Performed and Resources Used

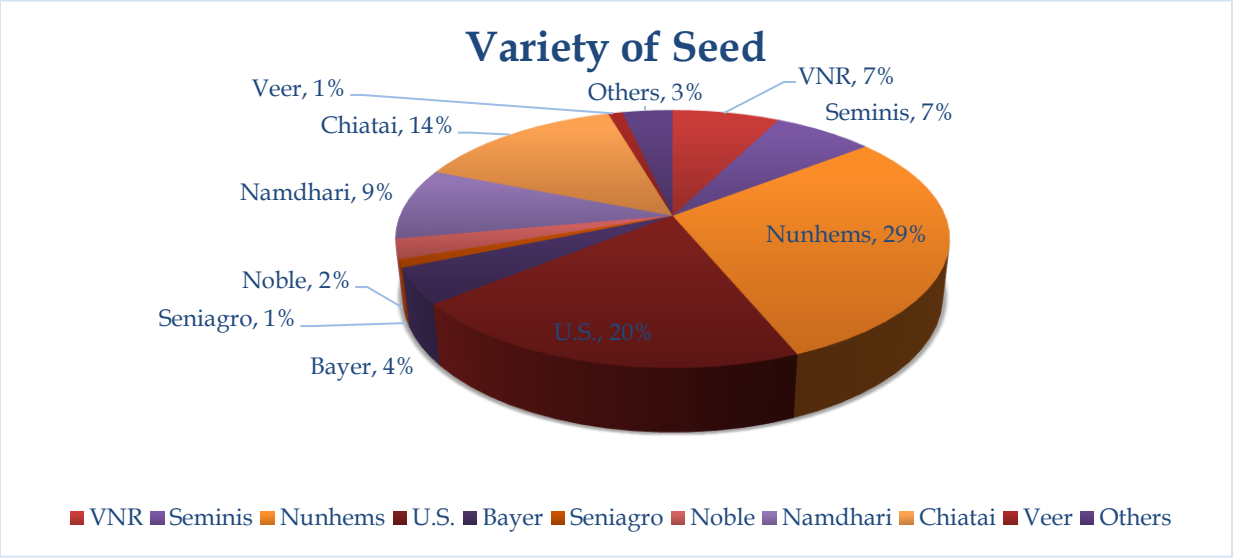
Activity	Family Labour (nos.)	Hired Labour		Mechanization	
		Nos.	Avg. Manday Cost (INR)	Penetration	Avg. cost per day (INR)
Nursery Preparation	1.5	7.7	145	7%	826
Levelling	-	-	-	36%	530
Ploughing				37%	683
Bed Preparation	1.63	9.4	137	37%	538
Transplanting	3.05	26	150	-	-

Source: Primary Survey

Seed Preferences

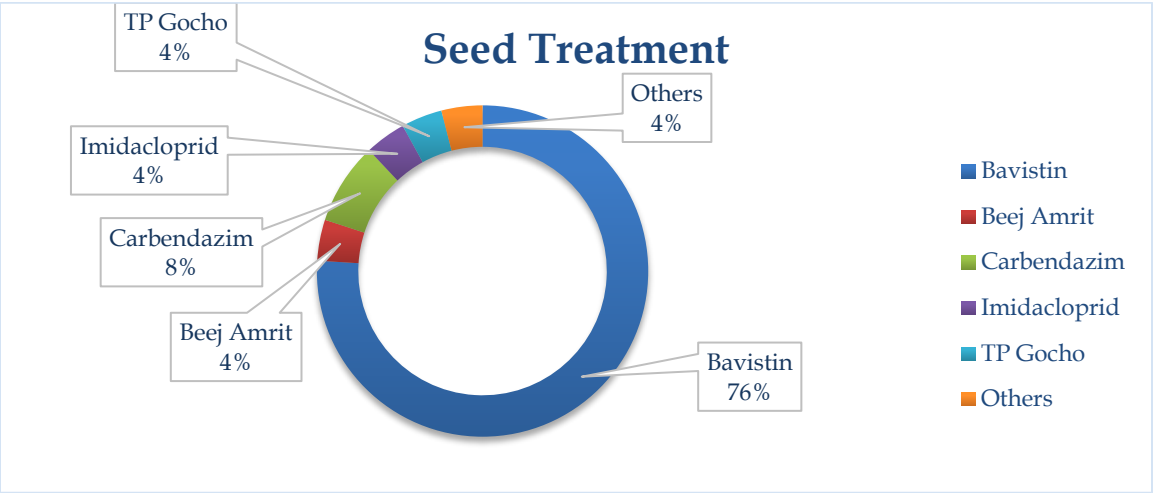
The major varieties of tomato seed preferred are U.S., Nunhems, Seminis and Chiatai. Other varieties preferred include VNR, Bayer, Noble and Veer. As per the analysis carried out of the findings of the primary survey, almost a blanket coverage of use of hybrid seeds is seen. It is a largely accepted practice and farmers prefer hybrid seeds over others. Almost 99% of the seeds are procured from local suppliers while the rest is sourced from fellow farmers or government/district departments. A brief snapshot of the variety of seeds preferred is provided in the diagram below.

Figure 5: Preference for Variety of Seed



Seed Treatment

In terms of seed treatment, almost 71% of the respondents replied that they are aware of seed treatment methods and their advantages. However, it came to the fore that in terms of execution, only 17% of the respondents agreed to having used any seed treatment measures. High prices of fungicides and insecticides as well as limited availability were cited as the major reasons. A summary of the major varieties used is depicted below



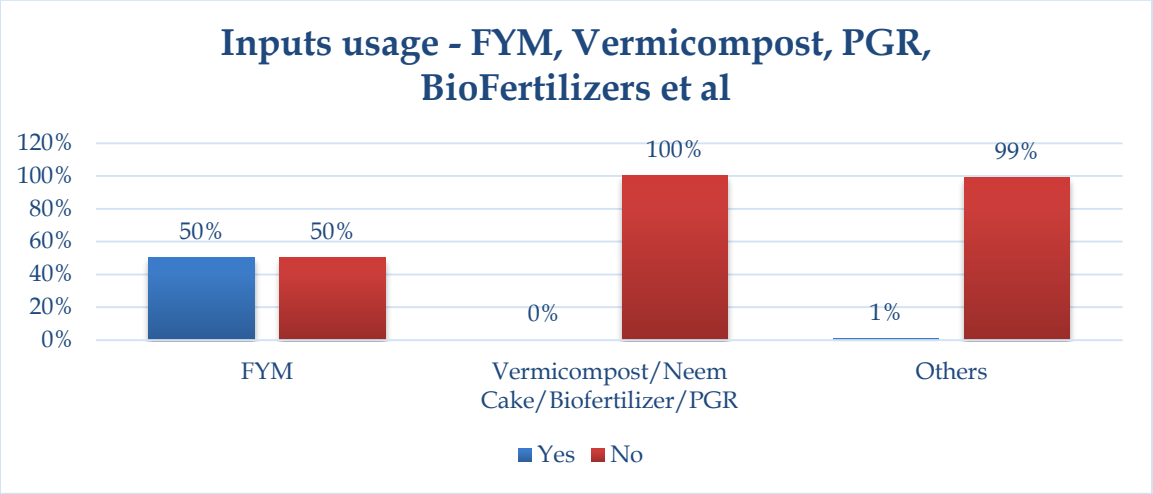
Source: Primary Survey

Application of Inputs

Organic Manure

Usage of organic manure was restricted to application of farm yard manure primarily with 50% of the respondents agreeing to its usage. Application of bio fertilizers, Plant Growth Regulators and Vermicompost was negligible. Some respondents affirmed usage of cow urine (*Gaumutra*) albeit occasionally. These are primarily utilized from own resources or from village level shops or outlets. Private sector involvement in this domain is pretty limited, accounting to only 6% of the total procurement.

Figure 6: Usage of Organic Manure

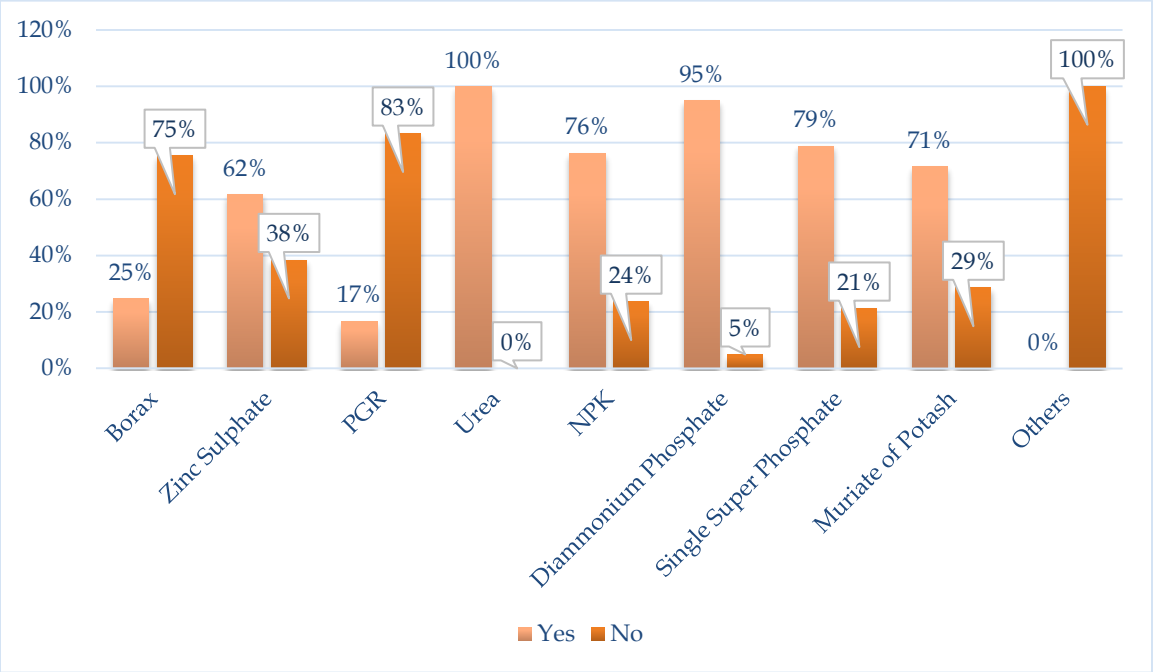


Source: Primary Survey

Chemical Inputs

Urea enjoys an overwhelming response in tomato cultivation in terms of usage of inputs which are chemical based. This is followed by Diammonium Phosphate (DAP), NPK, Single Super Phosphate (SSP), Muriate of Potash (MOP) and Zinc Sulphate.

Figure 7: Usage of Chemical Inputs



Source: Primary Survey

Average price (in INR) and usage (per hectare) of these chemical inputs in the market were found to be as follows

Table 12: Average Price and Usage of Chemical Inputs in Tomato Cultivation

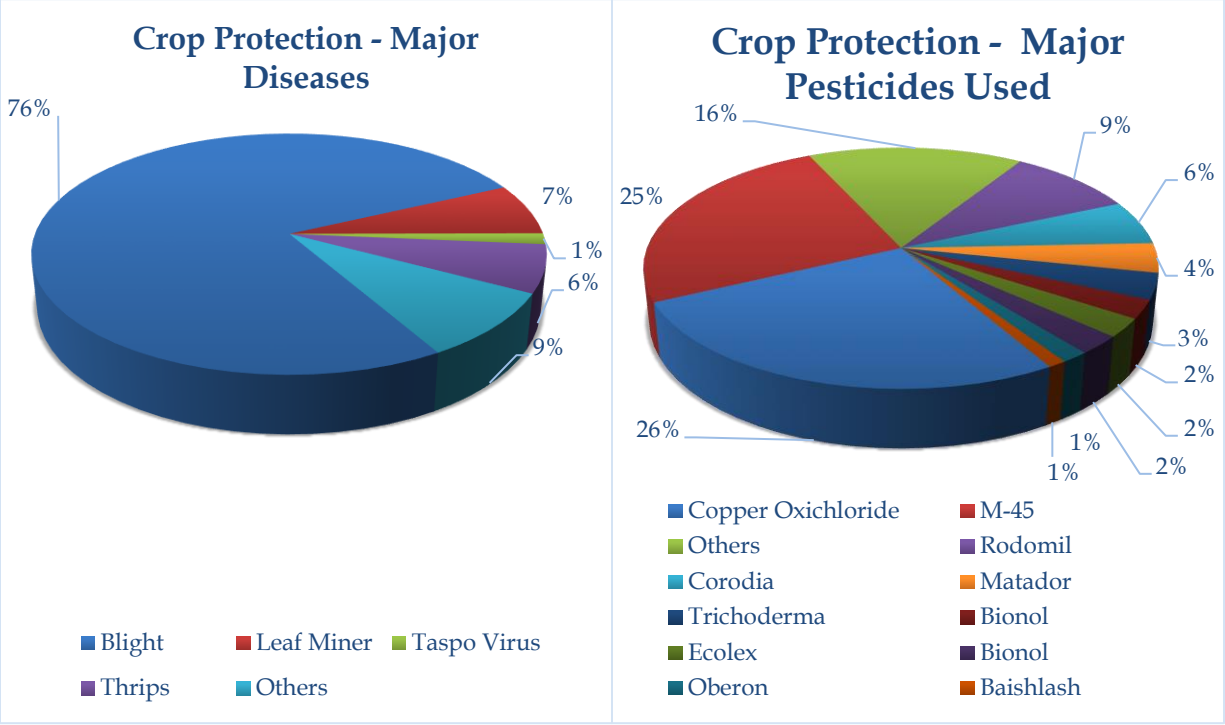
Sr. No.	Name of Chemical Input	Average Usage (Kg/Ha.)	Price Per Kg. (INR)
1.	Borax	6.16	414
2.	Zinc Sulphate	20.63	112
3.	Plant Growth Regulator (PGR)	10.02	694
4.	Urea	262	6.30
5.	NPK	227	19.65
6.	Diammonium Phosphate (DAP)	241	25
7.	Single Super Phosphate (SSP)	202	14
8.	Muriate of Potash (MOP)	214	15

Source: Primary Survey

Crop Protection

Tomato Blight continues to be the major disease affecting tomato cultivation with 76% of the respondents reporting the disease in the study region. Other diseases include Thrips and Leaf Miner Disease. For treatment of the same, Copper Oxichloride and M-45 are the major pesticides which are utilized by the farmers.

Table 13: Usage of Inputs for Crop Protection



Source: Primary Survey

Table 14: Major Pesticides and their average market costs

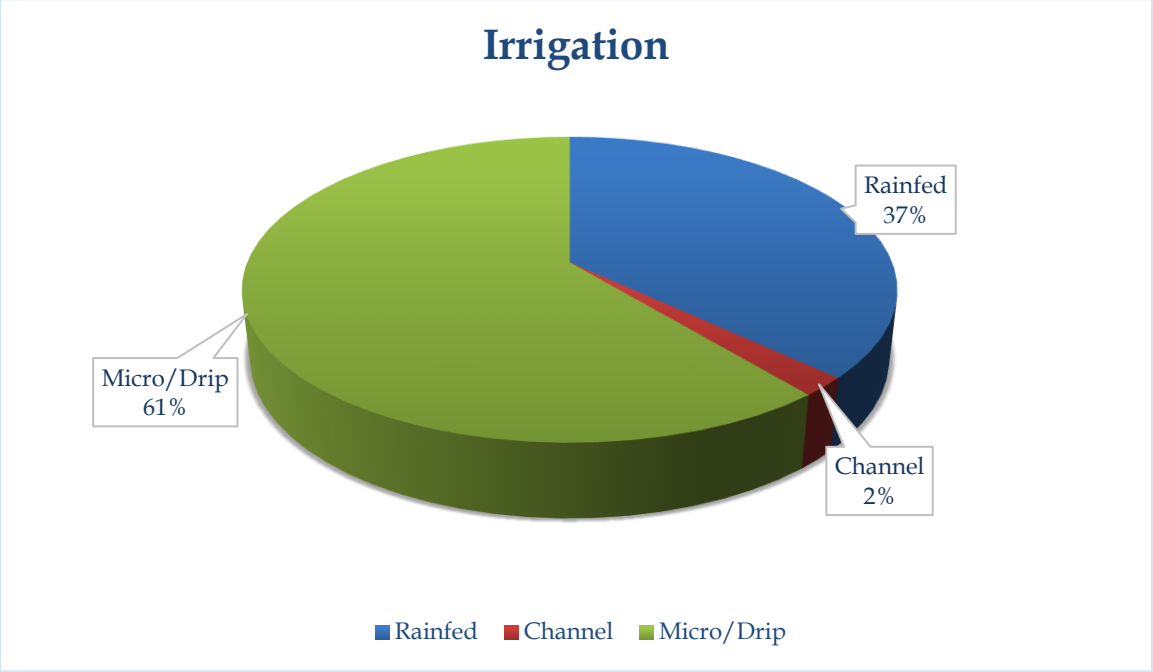
Sr. No.	Name of Insecticide	Average Price (in INR/Litre)
1.	Copper Oxichloride	702
2.	M-45	688
3.	Rodomil	989
4.	Corodia	1,546
5.	Matador	2,275
6.	Trichoderma	671
7.	Bionol	2,360
8.	Ecolex	1,325
9.	Oberon	5,000

Source: Primary Survey

The Indian Institute of Horticultural Research (IIHR) has developed an IPM package which takes care of fruit borer, leaf miner, mite and insect vector diseases in tomato. However, it was found that the awareness regarding Integrated Pest Management (IPM) was at an abysmal low.

Irrigation

The major mode of irrigation in the area was found to be done through micro irrigation methods, followed by those depended on rain fed irrigation. Average cost of irrigation was found to be INR 2800 per Hectare.



Source: Primary Survey

3.4. Cost of Cultivation

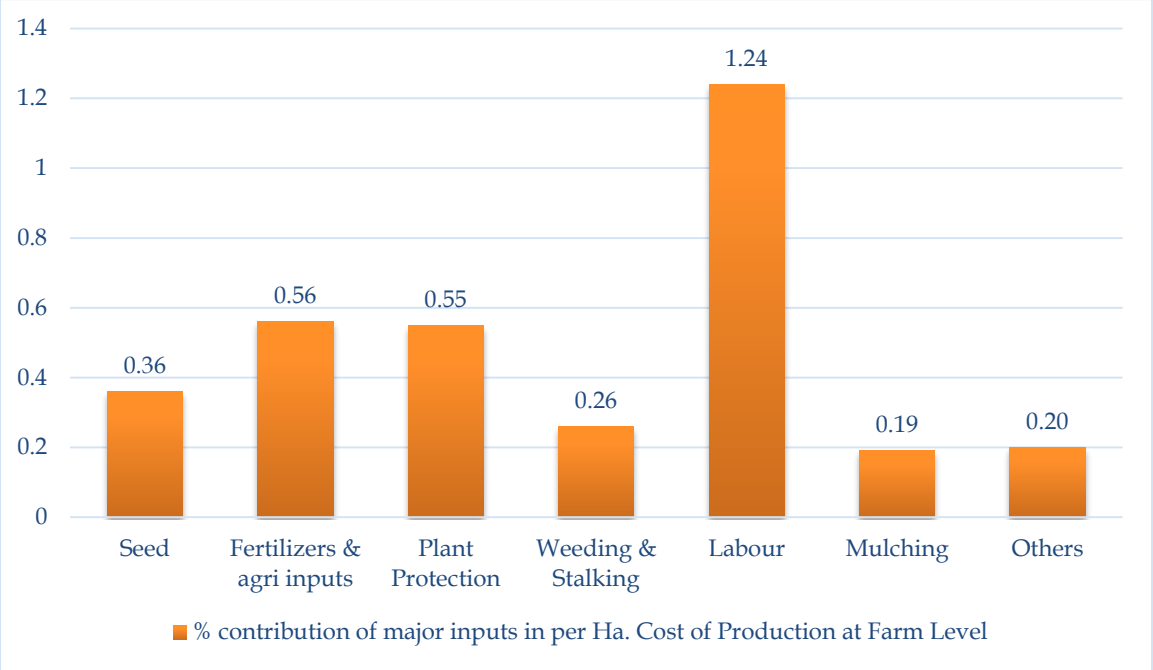
Price build-up of various vegetables in the region at farmers level depends on the usage of inputs like type of seeds (local/HYVs), fertilizers (NPK), crop protection chemicals (insecticide/pesticide/fungicide), irrigation etc. besides inputs labour, packing, transportation also adds up in the price. Cost of Production consists of cost of seed, fertilizers and agri inputs, plant protection measures, crop protection, labour for value addition. Labour contributes the maximum to the price buildup of cost of production.

Table 15: Average Cost of Production for Tomato

Price Buildup - From Farmer to Consumer			
Particulars	**Amount (in INR)**	**Price Mark up (per Kg)**	**% buildup**
Seed	0.36	0.36	11%
Fertilizers & Agri Inputs	0.56	0.92	27%
Plant Protection	0.55	1.47	44%
Weeding & Stalking	0.26	1.73	51%
Labour	1.24	2.97	88%
Mulching	0.19	3.16	94%
Others	0.20	3.36	100%
Cost of Production		**3.36**	

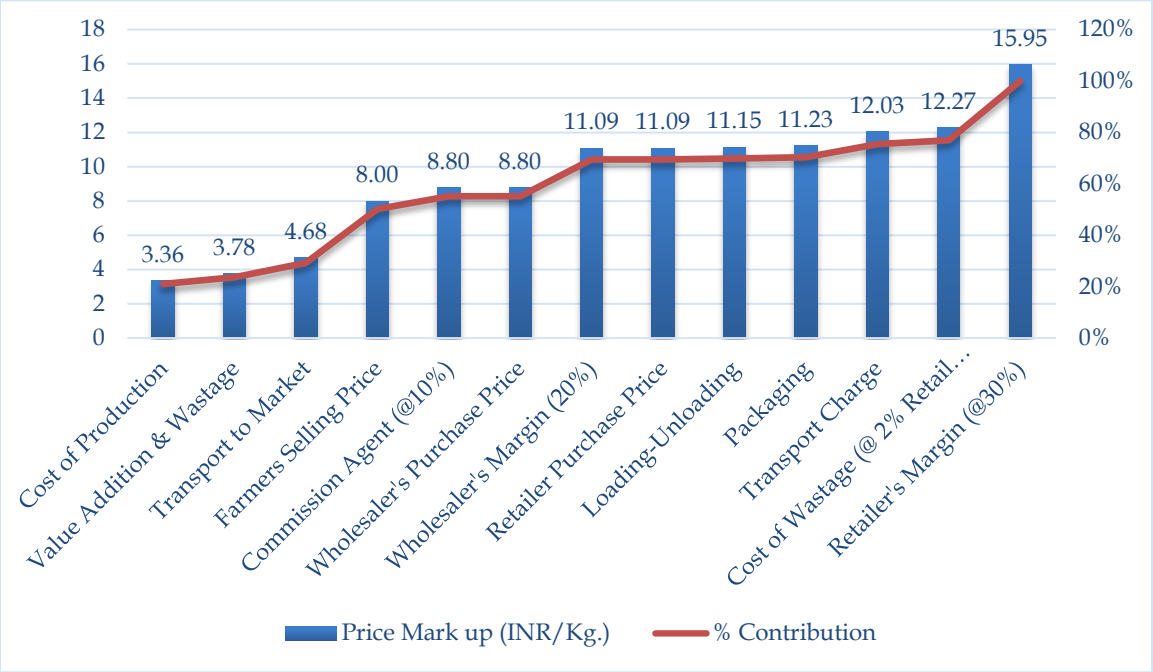
Source: Primary Survey

Figure 8: % contribution of major inputs in per Ha. Cost of Production at Farm Level



Source: Primary Survey

Figure 9: Average Price Buildup in supply chain of Tomato Crop in Durg



Source: Primary Survey

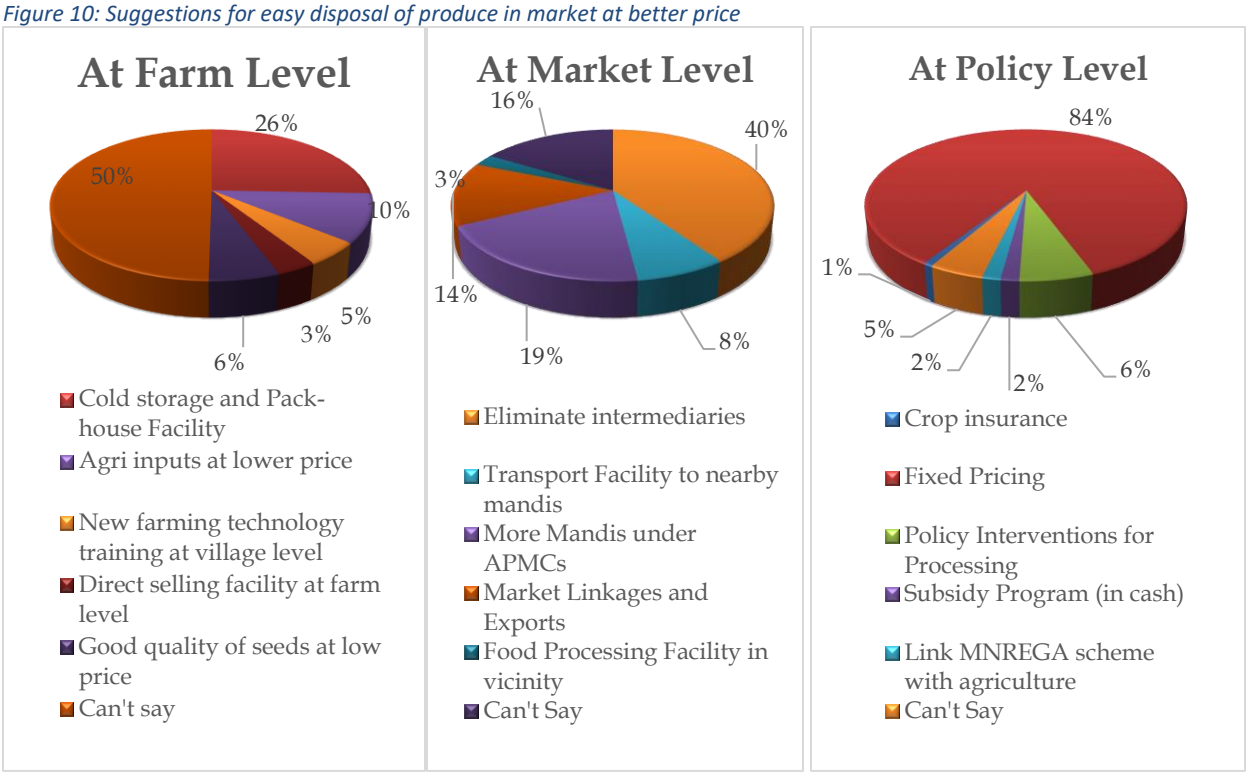
3.5. Infrastructure

When it came to ancillary agricultural infrastructure to support agriculture and allied activities, the presence was found to be very restricted. The respondents reported awareness and presence of a soil testing lab in the vicinity of their operations (only 18%) while 1% of the respondents responded in the positive when it came to packhouses. Other facilities such as Agri-Clinic, Disease forecasting Unit, Plant Health Clinic, Bio Control laboratory, Cold storage, Organic certification, Ripening Chamber, Primary processing center, Mobile processing center, Seed Producer Cooperative, Tissue Culture Lab were found to be non-existent as per the responses received by the tomato farmers in the study region.

48% of the respondents agreed to having availed soil testing services at some point in time. 62% of the respondents who availed these services found it beneficial to their operations. All other services were found to be seldom available.

As a result of the same, the respondents were then probed regarding their expectations Farm, Market and Government/Policy Level. The findings are summarized in the diagrams below:

Figure 10: Suggestions for easy disposal of produce in market at better price

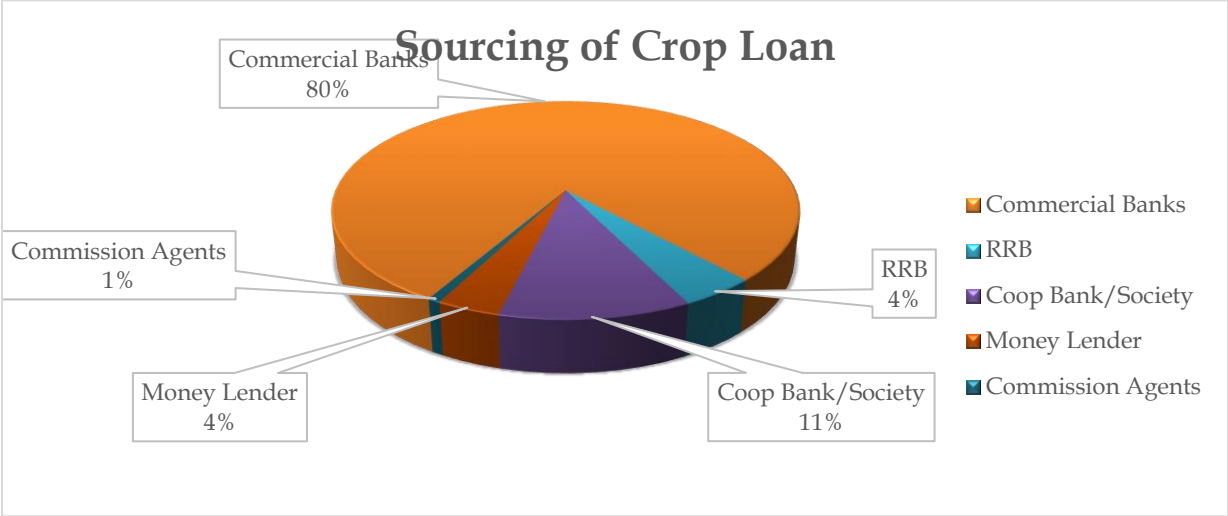


Source: Primary Survey

3.6. Credit

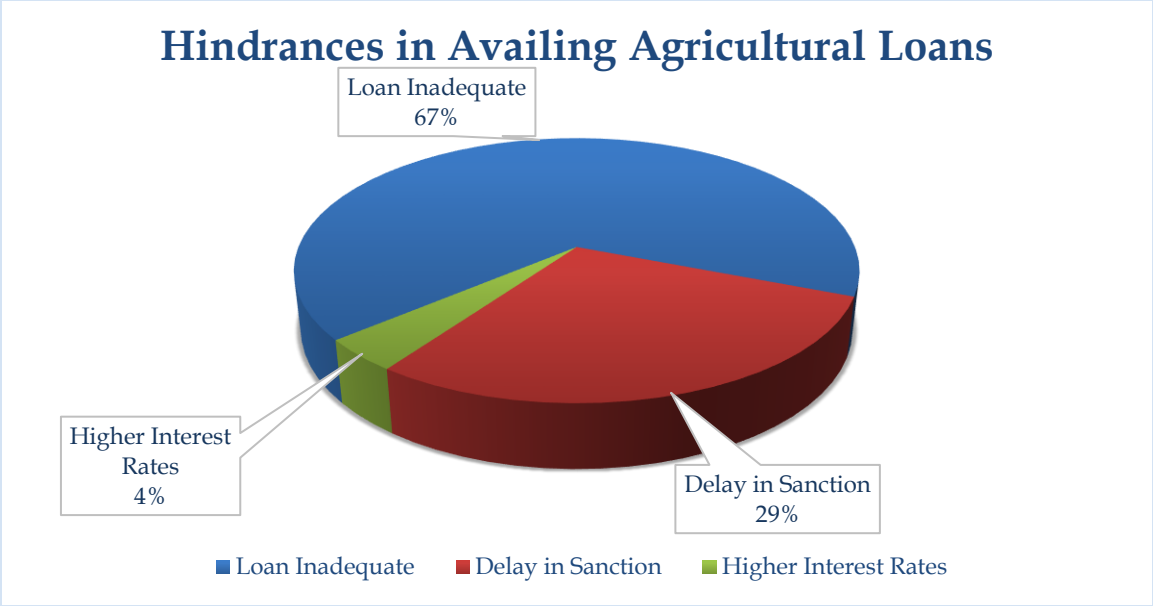
66% of the respondents agreed to having availed crop loan. These were availed through a mix of resources namely Commercial Banks, Regional Rural Banks (RRBs), Cooperative Banks/Society, Money Lenders and Commission Agents. The trend of sourcing such loans is depicted in the figure below:

Figure 11: Sourcing of Agricultural Loan



Source: Primary Survey

- ✓ Average Rate of such loans came to about ~9%.
- ✓ Also, it was studied whether any issues were faced while sourcing of such financial assistance from registered bodies. Around 21% of the respondents concurred that few hindrances were faced. Several reasons were cited which ranged from delays in sanction to high interest rate. A break up of such factors playing a role in grant of loans to tomato farmers in the region is summarized below:



Source: Primary Survey

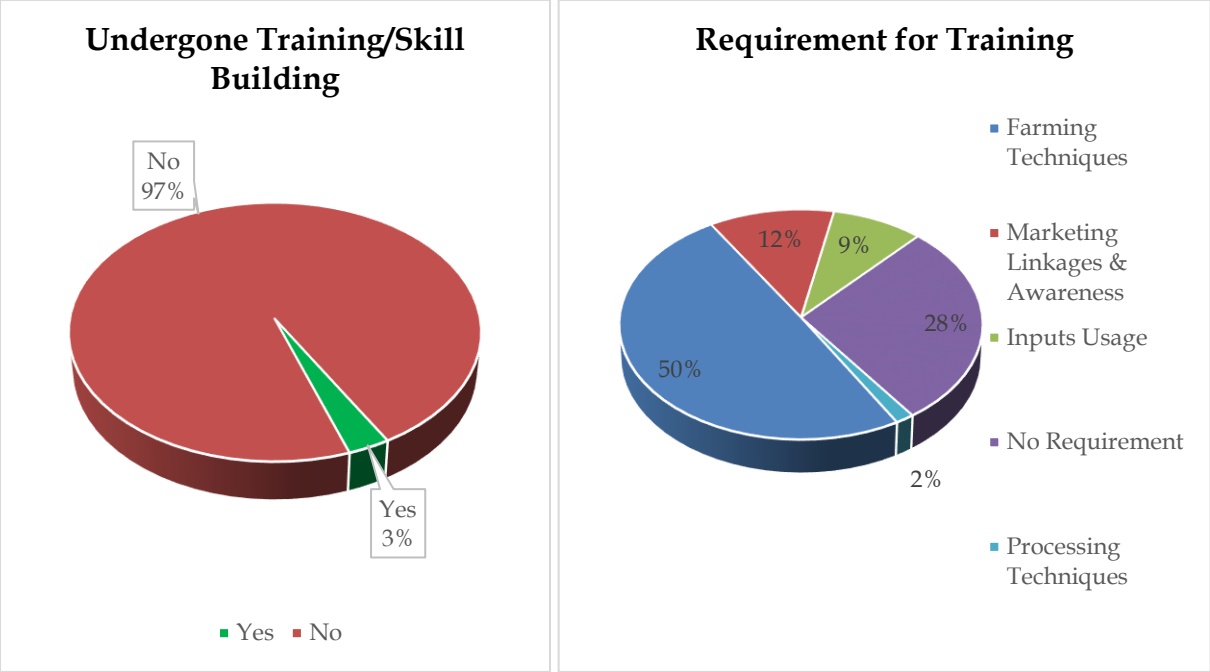
In terms of crop insurance, the share of those who have availed these services is negligible (only 1% availed Crop insurance with an average premium amount of INR 500 per annum.

3.7. Training & Capacity Building

Skill Building and Training programs were not found to be that prevalent with only 3% of the respondents agreeing to having undergone some kind of training programme in the recent past. These were found to be conducted under the MIDH programme or other district or block level NGOs/agencies. All the respondents who underwent training confirmed that they found it to be beneficial in terms of improvement in transplanting and nursery practices, seed treatment, disease management, irrigation management with few also citing organic practices as being a plus as an output of the training programs.

Regarding expectations in terms of training and capacity building, it was cited that training regarding modern and up to date farming techniques to enhance productivity and yield is of utmost importance with over 50% of the responses highlighting such a requirement. This was followed by information dissemination regarding marketing information and linkages. This would help in forming robust linkages with the market and processors thereby increasing potential for better income realization to the farmer.

Figure 12: Tomato Farmers in Durg - Training & Capacity Building

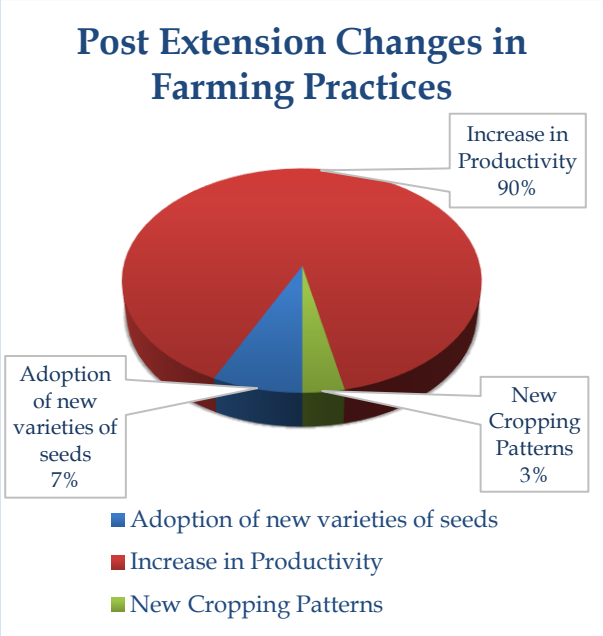


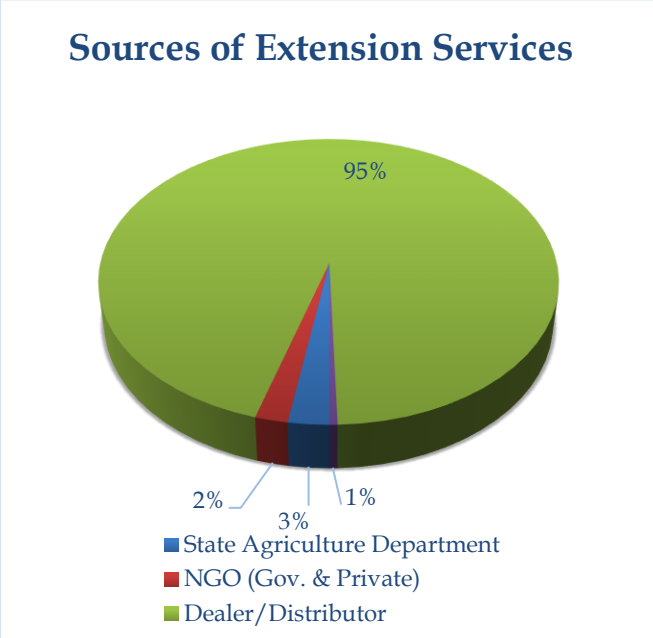
Source: Primary Survey

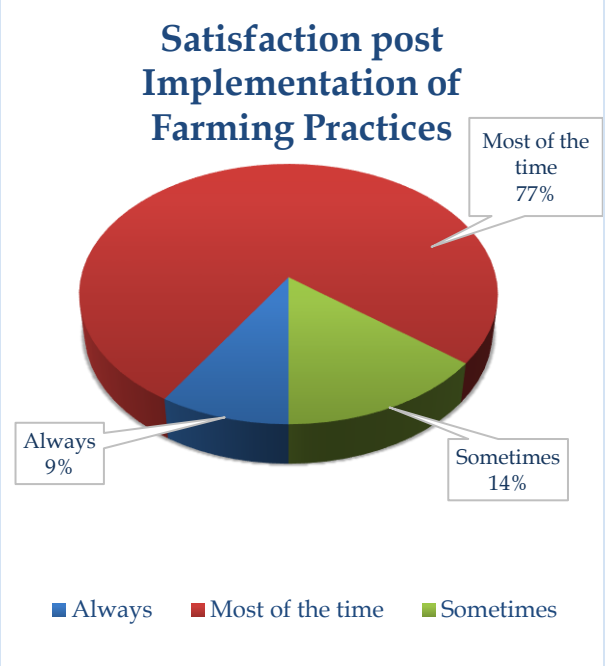
Extension Services

Almost all of the respondents agreed to having sought extension services from Government Departments or Agencies to understand and address problems related to their tomato cultivation operations. These were sought from multiple resources such as State Agriculture Dept., NGOs, Kisan Vigyan Kendra's, Academic & Research Institutions, ATMA, Dealer/distributors, NHRDF, Plant Clinic, Govt. Extension Officers etc.

Figure 13: Post Extension Changes in Farming Practices







Source: Primary Survey

3.8. Farmer Groups

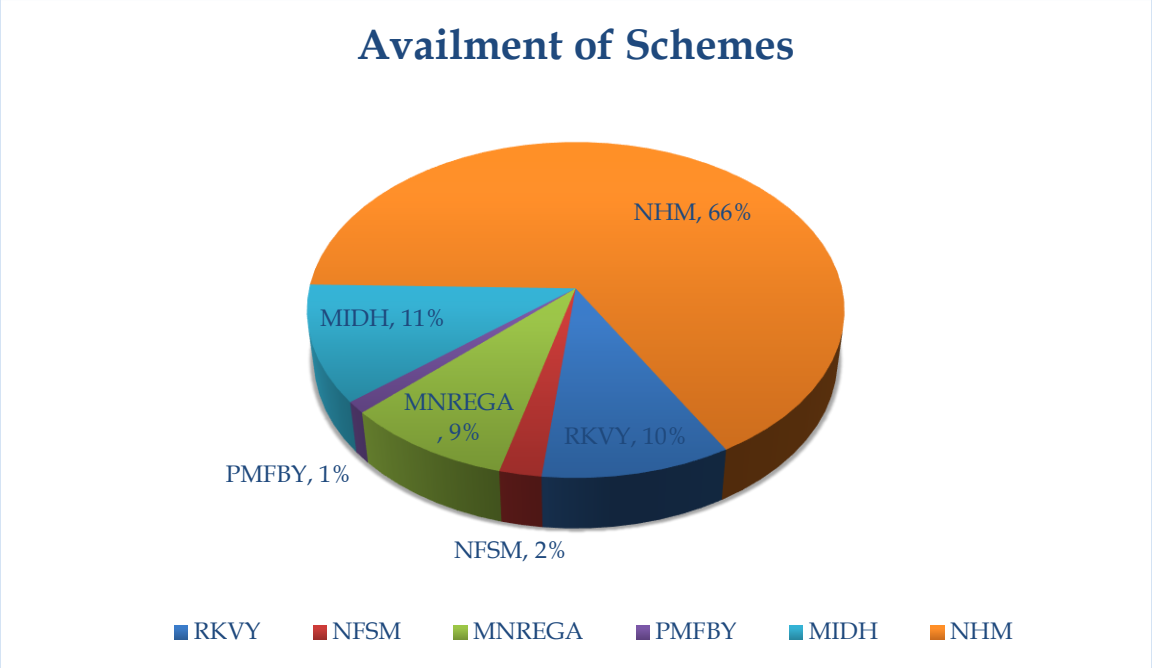
- In the study region, the awareness regarding farmer groups was found to be negligible. In the villages that were covered under the survey, the presence of farmer groups was NIL

3.9. Government Support

Awareness of Government Schemes

- There are numerous Schemes under implementation by various State and Central level bodies which are of assistance to farmers ranging across extension, post-harvest management, marketing linkages and access to financial assistance. Around 44% of the respondents agreed to having availed such schemes while 56% denied having utilized any such schemes. A brief snapshot of various schemes utilized by the tomato farmers in the study region is depicted below:

Figure 14: Schemes availed by tomato farmers in study region



Source: Primary Survey

4. Value Chain Analysis

4.1. Infrastructure

In order to reduce the price gap between producers and consumers through reduction in intermediation of supply chain, create alternative marketing channels and promote investment on development of marketing infrastructure with private sector participation, Chhattisgarh State has deregulated marketing of fruits and vegetables in the Agricultural Produce Market Committee (APMC) yards and exempted the market fee on fruits & vegetables. Since, the measure is intended to reduce supply chain and create competition in marketing of fruits and vegetables, therefore, it has inherent potential to make available these food items to consumers' at reasonable prices along with to enhance farmers' profit with their open choice of selling to anybody , anywhere, wherever get the better prices. There are 3 agriculture mandis (APMCs) with their working jurisdiction as under. Average distance of 25 km has been worked out to reach the nearest mandi in the district, whereas the maximum distance is more than 70 km.

Table 16: Available Marketing infrastructure facilities[10]

Sl. 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

In Durg district, major trading of Fruits & Vegetables takes place in Durg F&V market. Though F&V market is situated in the premises of APMC but it is operated traders only and market lacks all basic necessary infrastructure required for trading like electronic weighbridge, sorting/grading machines, electronic display, cold storage, produce handling equipment, canteen, farmers resting place etc. As per discussion with Secretary Durg APMC, APMC has no interference in the F&V market and in its operations, APMC has only leased out its shops to traders who acts as commission agent and wholesalers. Around Vegetables 50 traders are operating in the market. There is no recording of market arrivals and prices of produce and auctioning is carried out manually. Traders usually charges 7-10% commission on the sales from the farmers.

Table: Market Arrival and Prices of Tomato in Durg[11]

Month	2016		2017	
	Arrivals (MT)	Average Modal Price (Rs./Quintal)	Arrivals (MT)	Average Modal Price (Rs./Quintal)
January	1356	1163	1584	288
February	1794	405	1740	429
March	1900	524	1570	645

[10] *District Statistical Book (Year Book) 2011, Office of the District Planning and Statistics, Durg district (C.G.).*
[11] *http://agmarknet.nic.in/agnew/NationalBEnglish/DatewiseCommodityReport2.aspx*

April	230	675	2170	971
May	1225	1481	2102.5	839
June	564	3330	1957	1904
July	917	2325	972	5029
August	1247	1188	1535	3466
September	1253	1206	460	1750
October	1300	1041	-	-
November	1645	939	-	-
December	2150	343	-	-

4.2. Transportation and Packaging

To avoid any physical losses on farm and during transportation to nearest market, majority of farmers in the Durg district adopted plastic crates for handling. Tomatoes are plucked from bunches' and directly kept in the plastic crates in the field. On an average each crate accommodates 22-24 Kg of Tomatoes. Majority of tomato farmers in the district owns plastic crates. On an average the price of plastic crates varies from Rs. 250-300 per crate and shelf life is around 4-5 years. The movement of produce to nearest markets is through autos/ pickups/mini trucks/trucks in the region. Farmers usually travel distance up to 5-50 Kms to Durg to dispose of their produce. The cost of transportation varies with mode of transport (vehicle) and distance as mentioned below:

- Auto: Can carry load of 2-2.5 Qtls (11-12 crates), transportation charges varies from Rs. 0.50 to Rs. 0.85 per Kg based on distance of farm to market
- Pickups: Can carry load of 5-6.5 Qtls (25-30 crates), transportation charges varies from Rs. 1 to Rs. 1.25 per Kg based on distance of farm to market
- Mini Trucks: Can carry load of 13 -14 Qtls (60-65 crates), transportation charges varies from Rs. 1 to Rs. 1.25 per Kg based on distance of farm to market
- Medium Trucks: Can carry load of 22-25 Qtls (100-110 crates), transportation charges varies from Rs. 1.25 to Rs. 1.50 per Kg based on distance of farm to market
- Big Trucks: Can carry load of 110-120 Qtls (500 crates), mainly used by outside trader for bulk transportation to markets in Delhi, Karnataka, UP, Kolkata etc, transportation charges varies from Rs. 2 to Rs. 5 per Kg based on distance

Due to small volumes of produce, high transportation cost, high commission charges (7-10%) and lack of transparency in price discovery in the vegetable market in Durg limits majority of small and marginal farmers to dispose their produce in the village or neighboring markets however in case of medium and large farmers, Durg vegetable market is the key destination of selling their produce. Few large farmers also have direct contact with traders in Delhi, Odisha, Karnataka, and Maharashtra and dispose their produce to those traders during season.

4.3. Marketing Channels

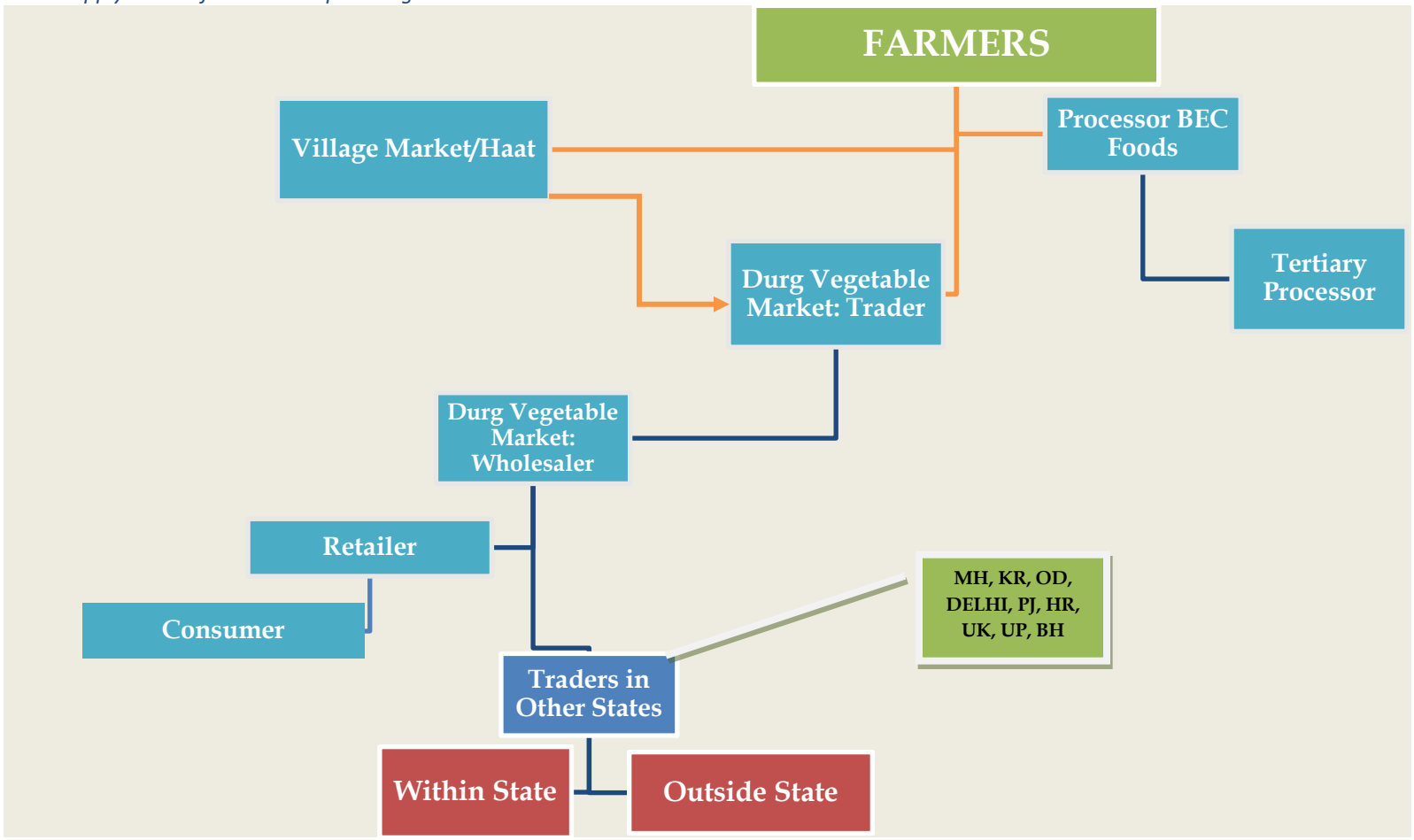
Like other agricultural commodities, marketing is playing very important role for the sale of tomato. The Durg district of Chhattisgarh lacks basic infrastructural facilities for the marketing of vegetables including tomato. During the course of study, producers, village merchants, commission agents cum wholesalers and retailers are the major value chain actors found engaged in the production, assembling and marketing of tomato

4.4. Price Buildup

Table 17: Price Buildup (excluding cost of production) to consumer

Particulars	Amount (in INR)	Price Mark up (per Kg)	% contribution
Cost of Production		3.36	
Washing/Sorting/Grading	0.32	3.68	2.01%
Cost of Wastage (2.75%)	0.10	3.78	0.63%
Transport to Local Market Cost (per Kg)	0.90	4.68	5.64%
Farmers Margin	3.32	8.00	20.81%
Farmers Selling Price	-	8	
Commission Agent (@10%)	0.80	8.80	5.02%
Wholesaler's Purchase Price	-	8.80	
Loading-Unloading	0.08	8.88	0.50%
Packing-Weighing	0.35	9.23	2.19%
Transport Charge	0.01	9.24	0.06%
Wholesaler's Margin (20%)	1.85	11.09	11.59%
Retailer Purchase Price		11.09	
Loading-Unloading	0.06	11.15	0.38%
Packaging	0.08	11.23	0.50%
Transport Charge	0.80	12.03	5.02%
Cost of Wastage (@ 2% Retail level)	0.24	12.27	1.51%
Retailer's Margin (@30%)	3.68	15.95	23.08%
Consumer Purchase Price		15.95	**100%**

Figure 15: Supply Chain of Tomato Crop in Durg District



Source: Primary Survey

Village Haat

Majority of small and marginal Tomato producers dispose their produce to the village merchant in nearby Village Haat. Generally, the village merchant act as the anchor contact farmer and purchases the tomato at appropriate rates which is suitable to the small and marginal producers. The village merchant charges their commission and sells to wholesaler in Durg at more prices.

Traders (Commission Agents and Wholesalers)

Due to deregulation of F&V from APMCs in Chhattisgarh, infrastructure development, monitoring of transactions, transparency in price discovery and commission on sales become major challenge. Around 50 traders operate in Durg vegetable market and largely perform function of both commission agent and wholesaling. As per discussion with farmers, commission agents charges low commission (6-7%) from medium and large farmers due to large volumes of produce however small and marginal farmers have to pay high commission (7-10%) due to small volumes. The wholesaler after purchasing the produce from farmers sells the produce to other districts in the state and also to traders in Delhi, Odisha, Karnataka, Maharashtra and other states.

Retailer

The retailer was the last intermediary in market. The retailer purchases the tomato from farmers and sold them at various small markets at their own prices.

4.5. Tomato Crop – Basic Economics

Based on a sample survey of around 200 tomato farmers in the study region, the following statistics were derived.

Figure 16: Basic Crop Economics - Tomato

Per Ha. Cost of Cultivation (A)	Per Ha. Yield in Kg	Average Price Realized (Rs./Kg)	Gross income per Ha. (B)	Net income per Ha. © = (B)-(A)
1,68,669	61,748	3.19*	1,87,721	19,000

Source: Primary Survey

The cost of cultivation per hectare includes cost for preparation of land, seeds/planting material, fertilizers/pesticide application, irrigation, labour cost and transportation costs. The net income achieved by the farmer is ~10% of the total cost of cultivation incurred by the tomato farmer on a per hectare basis.

*Average Price Realized is low as per the primary survey due some impact which has happened on the market operations due to demonetization. On an average, the price varies between INR 8-9/-, however, since the survey was done in consequence to demonetization, such an impact is seen.

5. Challenges across the value chain

Production & Inputs

In the region farmers endeavor to obtain possible tomato production by adopting hybrid seeds, applying high chemical fertilizers, insecticides, pesticides etc. The available water resources such as wells and bore-well were widely exploited for irrigating the tomato crop. Therefore, cost of cultivation has gone up to the tune of INR 1,68,669 per hectare and farmers were finding it difficult to cope up with the raising input costs.

The emergence of new virus challenges and the inability of older tomato cultivars to resist new disease strains is causing the majority of farmers to frequently spray their crop with pesticides and in increasingly higher dosages. This unscientific approach to combating crop risk, often without the evidence of symptoms also adds significantly to the cost of production.

Most farmers (mainly small & marginal) have little exposure or training on good agricultural practices and typically adopt production methods that they see their peer farmers practicing in their neighborhood. Thus, many farmers implement improper crop management decisions particularly with respect to crop disease risk and management.

Labour

Farmers experience serious problems in securing farm labor during the planting and harvest periods creating serious crop risk particularly given the multiple and frequent pickings required over a 2 to 3-month period. Majority of the farmers depended on outside laborers rather the family laborers in the task of tomato production. In addition, the high labor costs reduce margins for farmers and are a dis-incentive for farmers who may wish to get into tomato production.

Post-Harvest Management

Tomatoes are highly perishable and due to lack of proper post-harvest handling infrastructure, farmers not only suffers physical losses and quality but also bound to sale their produce immediately after harvest at whatever price offered by the traders. Farmer's feel helpless and dependent on market intermediaries due to lack of post-harvest handling and processing infrastructure in the district.

Value Addition and Processing

Tomato varieties in Durg have been bred mainly for the fresh market. A key constraint to production of process able varieties is the lack of processing industries.

In the district BEC Food Ltd is the only processor with 200 TPD tomatoes processing (paste) capacity indicate that sourcing locally had several barriers including a lack of tomato quality consistency, a lack of availability of produce in the volumes required and price volatility.

Lycopene is the main carotenoid in tomato fruit producing red color and its content is a critical quality parameter for the processing tomato industry. Lycopene synthesis is temperature sensitive, favored by average temperatures of 16-21 °C and inhibited above temperatures of 30 °C. However, Durg agro-climatic zones where tomatoes are generally grown are unlikely to suit these conditions. Day temperatures in the growing season in Durg is usually in the 35-40° C range though summer temperatures are significantly higher.

Production costs are currently estimated at between Rs 3 to 3.36 per kg on average (assuming yields of 30 tonnes/ha and operating expenses of between Rs 40,000 – Rs 45,000). Processors consulted seek tomato at or under Rs 4.00 per kg to maintain commercially viable operations. Mandi prices typically range between Rs 8 to 10 per kg though they may skew to Rs 2 per kg in glut market conditions and Rs 40 during the off-season. The challenge is to establish a price arbitrage equilibrium that supports both the farmer and processor.

Market Access and Market Price

Due to deregulation of F&V, trade is governed by the traders (commission agent/wholesaler) and F&V mandis lacks any facilities. Due to lack of market committee (F&V), no records maintained pertaining to market arrivals & market prices and lack of transparency exists in auctioning and price discovery. Situation becomes worst during peak arrival seasons as traders (commission agent/wholesaler) gives preference in auctioning to medium & large farmers due to bulk produce however small & marginal farmers needs to wait for auctioning otherwise have to pay high commission charges (8-10%).

Farmers realize an estimated 40-50% of total value through the supply chain with the remainder being distributed amongst a multiplicity of traders and commission agents. This low margin on total value makes production unviable during the glut periods when tomato prices fall to Rs. 0.50 to Rs. 2 a kg.

6. Recommendations/Conclusions

Production & Inputs

- Department of Horticulture along with SAU & KVK should develop improved tomato cultivars (both table & processing) resistance to diseases, insects & pests, promote on farm seedling production and distribution to farmers at minimum price.
- Demonstration farms need to be established in key production clusters to showcase GAP techniques as success stories and to promote a network of champion farmers who could promote these approaches to their peers.
- Establishment of high-tech nurseries in the production clusters will not only ensure supplies of improve quality seedlings to the farmers but also generate additional employment opportunities.
- Department of Horticulture should create awareness amongst farmers and promote INM and IPM interventions along with the trellising/staking, mulching, micro irrigation and fertigation that can help reduce input and labor costs and increase profitability of farmers and bring sustainability.

Labour

- Establishment of custom hiring centers (equipped with small farm machines) in the major production clusters in the district will not only help farmers (especially small & marginal) dependency on human labors but also reduce farm drudgery, bring efficiency in farm operations and reduce cost of production significantly.

Post-Harvest Management

- Department of Horticulture should establish post-harvest handling infrastructure (modern packhouse) at Dhamdha and Durg. The modern packhouse to be equipped with sorting, grading, waxing machines, cold stores and reefer transports.
- Establishment of modern packhouses not only provide price arbitrage opportunities to farmers by limiting distress sell but also increase shelf life, reduce post-harvest losses and enhance quality.
- Additionally establishment of Packhouses will ensure consistent supplies of fresh tomatoes for processing industries and a planned production scheduling synchronized with processing plant requirements.
- There is also a significant interstate trade in tomato driven largely by availability (varying harvest seasons and particularly off-season production), price variations and quality considerations. This, in part helps create price equilibrium across regional markets.

Value Addition and Processing

- Diversification of area from table purpose varieties to process able varieties along with the introduction of high-yielding varieties including open pollinated varieties (local cultivars) suitable for processing is required to address this. For processing purpose, Varieties need to be developed that suit heat stress conditions.
- Through improved crop yields coupled with reduced production costs by the farmer and effective as well as sustainable contract farming mechanisms offered by the processor can be win-win situation for both farmers and processors.
- Establishment of tomato processing facilities at Durg and Dhamdha will not only motivate tomato farmers to grow process able varieties but also cover risk of distress sale during glut.
- The promotion of farming clusters in the form of FPOs etc., in key growing areas linked through contract farming with the processing tomato industry supply chain would greatly support the expansion of the domestic tomato processing sector. To enhance on-farm value-addition and attractiveness of this proposition to the farming community the prospect of intermediate paste production at the production clusters (FPOs) could be examined. This could possibly be under joint-ownership of both FPOs and processor but under the processor's supervision for quality and operational compliance.

Market Access and Market Price

- In order to bring transparency and efficiency in the mandi operations, all major F&V markets needs to be equipped with basic infrastructure facilities including electronic weigh bridges, electronic display; sorting/grading/waxing machines auction platforms, cold storages, farmer's rest house, canteen etc. Also Joint Committee involving representatives of farmers, traders and govt should be formed to overlook transparent auctioning and price discovery of the produce besides regular monitoring of market arrivals and prices.

Annexures

Tomato Farmers Consulted

Table 18: List of Tomato Farmers Consulted

Sr. No.	Block/Taluka	Village	Name of Farmer	Contact No.
1	Durg	Tirga	Sudarshan Nisad	8349062270
2	Durg	Tirga	Mahesh Deshmukh	9981300229
3	Durg	Tirga	Aswani Kumar	7869852887
4	Durg	Tirga	Bhratlal	8225079958
5	Durg	Tirga	Sun Sha	8269371817
6	Durg	Tirga	Shambhudayal Deshmukh	9685215865
7	Durg	Tirga	Tildehn Kevat	7354956603
8	Durg	Tirga	Santosh Kumar Nishad	7223932537
9	Durg	Tirga	Narendra Kumar Thakur	Refused to Share
10	Durg	Tirga	Madhur Lal Deshmukh	9174203991
11	Durg	Borai	Manoj Chauhan	9977428938
12	Durg	Borai	Depak Yadav	9685476840
13	Durg	Borai	Ritu Ram	7869866454
14	Durg	Borai	Prachand Yadav	9755947748
15	Durg	Borai	Ravindra Yadav	9993310189
16	Durg	Borai	Sunita Tank	8319046007
17	Durg	Borai	Krishan Chauhan	9907956224
18	Durg	Borai	Krishan Devagan	9425557997
19	Durg	Borai	Nitin Solanki	8349466844
20	Durg	Borai	Jaydeep Solanki	9893167005
21	Durg	Jhola	Harish Chandra Sinha	9691833204
22	Durg	Jhola	Jain Kumar Deshmukh	7389606654
23	Durg	Jhola	Chandra Kumar	9179271264
24	Durg	Jhola	Jitendra Kumar	8817704841

25	Durg	Jhola	Pooran Lal	9691859444
26	Durg	Jhola	Tamen Singh Amrit	7898344242
27	Durg	Jhola	Bohiram Desh Lahire	8234070594
28	Durg	Jhola	Budharu Ram Nishad	7389143028
29	Durg	Jhola	Tilak Ram	7771819022
30	Durg	Jhola	Kumar Singh Netam	Refused to Share
31	Durg	Bhotali	Dukharan Nishad	Refused to Share
32	Durg	Bhotali	Maniram Shahu	Refused to Share
33	Durg	Bhotali	Amar Singh Sahu	7697118135
34	Durg	Bhotali	Jharihar Sahu	9589438033
35	Durg	Bhotali	Tamlal Sahu	9754401106
36	Durg	Bhotali	Ram Kumar	N.A.
37	Durg	Bhotali	Devendra Sahu	Refused to Share
38	Durg	Bhotali	Suman	N.A.
39	Durg	Bhotali	Ramesh Sahu	7869862233
40	Durg	Bhotali	Bhushan Sahu	Refused to Share
41	Durg	Arasnara	Maya Bai	9981767929
42	Durg	Arasnara	Ram Chandra Verma	9406204690
43	Durg	Arasnara	Vipin Chawada	9827484225
44	Durg	Arasnara	Narendra Patel	8120168802
45	Durg	Arasnara	Dhanesh Sahu	8827385664
46	Durg	Arasnara	Mahesh Baghala	9893303580
47	Durg	Arasnara	Visha Baghala	9425555598
48	Durg	Arasnara	Kelash Shah	9827800305
49	Durg	Arasnara	Nirmela War Baghala	Refused to Share
50	Durg	Arasnara	Dwaraka Prashad	7898088355
51	Durg	Karnja Bhilai	Jayram Nirmalkar	7869464671
52	Durg	Karnja Bhilai	Ashok Patel	9685338963

53	Durg	Karnja Bhilai	Mahaveer Nishad	9753380432
54	Durg	Karnja Bhilai	Surenda Patel	7566477453
55	Durg	Karnja Bhilai	Chain Lal	Refused to Share
56	Durg	Karnja Bhilai	Biselal Patel	8827091604
57	Durg	Karnja Bhilai	Maya Ram Patel	7389261990
58	Durg	Karnja Bhilai	Kripalsinng	9685221235
59	Durg	Karnja Bhilai	Dilip Varam	9179674710
60	Durg	Karnja Bhilai	Chheduram Patel	Refused to Share
61	Durg	Nagpura	Seyaram Nishad	9724080809
62	Durg	Nagpura	Ashok Chandrakar	9977655969
63	Durg	Nagpura	Santosh Soni	9893518114
64	Durg	Nagpura	Pravina Ben Tank	8319046007
65	Durg	Nagpura	Hemchand Nishad	9691398409
66	Durg	Nagpura	Balram Gupta	Refused to Share
67	Durg	Nagpura	Ravindra Sinha	9669960936
68	Durg	Nagpura	Johan Lal Nishad	9691398409
69	Durg	Nagpura	Pankaj Bhai Tank	9302835351
70	Durg	Nagpura	Tileshvra Sinha	9098876576
71	Patan	Funda	Reena Taunk	9301913420
72	Patan	Funda	Dharam Shi Taunk	9300407222
73	Patan	Funda	Bhawesh Taunk	9300407222
74	Patan	Funda	Kumar Chand Taunk	8223970502
75	Patan	Funda	Anand Taunk	8827327747
76	Patan	Funda	Janki Taunk	8889846776
77	Patan	Funda	Viyi Taunk	8103258788
78	Patan	Funda	Nirmala Taunk	7389498805
79	Patan	Funda	Mahesh Taunk	9301913420
80	Patan	Rabeli	Rukh Mani Verma	8965834309

81	Patan	Rabeli	Kumari Rai	Refused to Share
82	Patan	Rabeli	Dev Narayan	9300506557
83	Patan	Rabeli	Kamlesh Kumar	9589895249
84	Patan	Rabeli	Shunil Chandrakar	8435585600
85	Patan	Rabeli	Mukund Kumar	9993262572
86	Patan	Rabeli	Bhidam Lal Varma	9993259596
87	Patan	Rabeli	Mahendra Kumar	9893152530
88	Patan	Rabeli	Rudresh Banchhor	9424216506
89	Patan	Rabeli	P.K. Varma	8959941820
90	Patan	Sirsakala	Hem Shankar Nishad	7898353627
91	Patan	Sirsakala	Dilip Chandrakar	7354038214
92	Patan	Sirsakala	Dev Kumar Nishad	9300844599
93	Patan	Sirsakala	Poshan Lal Devagan	8223809145
94	Patan	Sirsakala	Shashukant Sahu	7000028560
95	Patan	Sirsakala	Mahesh Chandra Kar	7000225227
96	Patan	Sirsakala	Sonu Chandraka	7828984066
97	Patan	Sirsakala	Mohan Chandrakar	7697580622
98	Patan	Sirsakala	Yogeswar Chandrakar	7699956440
99	Patan	Sirsakala	Chintaram Chandrakar	9827114337
100	Patan	Dev Baloda	Umang Chandrakar	8435299990
101	Patan	Dev Baloda	Toran Lal Nishad	9575589530
102	Patan	Dev Baloda	Kamal Narayan	9826112464
103	Patan	Dev Baloda	Sailenda Chandrakar	9425216141
104	Patan	Dev Baloda	Drvishal Chndrkar	9827466800
105	Patan	Dev Baloda	Chetan Chandrakar	9827466800
106	Patan	Dev Baloda	Vasudev Nishad	9644885090
107	Patan	Dev Baloda	Bharat Pal	7566511423
108	Patan	Dev Baloda	Nemi Chand Chndrakar	9584002329

109	Patan	Dev Baloda	Hukum Chandra Varma	9584375060
110	Patan	Somni	Narendra Chandrakar	8889431883
111	Patan	Somni	Hira Ram Nishad	Refused to Share
112	Patan	Somni	Punia Bai	Refused to Share
113	Patan	Somni	Shivkumar Chandrakar	9977018463
114	Patan	Somni	Gangaram Chandrakar	9977018463
115	Patan	Somni	Bhupendra Chandrakar	9009449670
116	Patan	Ghughava	Gendalal Sonkar	9754340032
117	Patan	Ghughava	Arjun Sonkar	8889837188
118	Patan	Ghughava	Hiraman	8819067115
119	Patan	Ghughava	Shobha Ram	9009272990
120	Patan	Ghughava	Bhau Ram	9301099670
121	Patan	Ghughava	Chhabiram	9575885340
122	Patan	Ghughava	Mahesh Sonkar	9617605063
123	Patan	Ghughava	Khemlal	8516060481
124	Patan	Ghughava	Deraha	9977250264
125	Patan	Ghughava	Santosh Kumar	9200329658
126	Patan	Khudmuda	Chhagan Sonkar	Refused to Share
127	Patan	Khudmuda	Yuvraj Sonkar	9977472438
128	Patan	Khudmuda	Sanju Sonakar	9977823879
129	Patan	Khudmuda	Rupnarayan Sonkar	9303670093
130	Patan	Khudmuda	Krishna Lal	9977336448
131	Patan	Khudmuda	Santosh Kumar Sonkar	9303622887
132	Patan	Khudmuda	Aghanu Sonkar	Refused to Share
133	Patan	Khudmuda	Raham Lal Sonakar	Refused to Share
134	Dhamdha	Danni Kokakdi	Devendra Patel	7898496665
135	Dhamdha	Danni Kokakdi	Prahlad Yadav	9893889711
136	Dhamdha	Danni Kokakdi	Chhavi Ram Yadav	8085258856

137	Dhamdha	Danni Kokakdi	Jalam Singh Patel	9424109627
138	Dhamdha	Danni Kokakdi	Ishulal	8435332072
139	Dhamdha	Danni Kokakdi	Balram Singh Patel	9993354876
140	Dhamdha	Danni Kokakdi	Dena Nath	8827231558
141	Dhamdha	Danni Kokakdi	Harak Ram Patel	7869374627
142	Dhamdha	Danni Kokakdi	Dila Haran Varma	9589352233
143	Dhamdha	Danni Kokakdi	Devendra Patel	Refused to Share
144	Dhamdha	Kanharpuri	Kumar Sih Kashyap	9406025320
145	Dhamdha	Kanharpuri	Kamlesh Kashyap	9993334463
146	Dhamdha	Kanharpuri	Pilaram Kashyap	9467782031
147	Dhamdha	Kanharpuri	Prakash Kashyap	9407782031
148	Dhamdha	Kanharpuri	Avadesh Kashyap	7999500094
149	Dhamdha	Kanharpuri	Aswani Kumar Kashyap	8839749181
150	Dhamdha	Kanharpuri	Dinesh Kumar	9425598655
151	Dhamdha	Kanharpuri	Heera Lal Patel	7587122403
152	Dhamdha	Kanharpuri	Yodhraj Kashyap	7898365506
153	Dhamdha	Kanharpuri	Amit Patel	9981536491
154	Dhamdha	Kareili	Chandrabhan	8462072119
155	Dhamdha	Kareili	Hemchand Sahu	9340395207
156	Dhamdha	Kareili	Swaroop Narayan Tamkar	9993605205
157	Dhamdha	Kareili	Mansuda Sahu	9685786121
158	Dhamdha	Kareili	Keju Sahu	9770608814
159	Dhamdha	Kareili	Kumbh Karan Sahu	9630057460
160	Dhamdha	Kareili	Yudhishtar Tamkar	9425567524
161	Dhamdha	Kareili	Sudhakar Tamkar	9993830187
162	Dhamdha	Kareili	Amrish Tamar	9425567527
163	Dhamdha	Kareili	Sunder Shah	9039347025
164	Dhamdha	Parsuli	Lala Patel	7803056143

165	Dhamdha	Parsuli	Kanha Patel	9179403734
166	Dhamdha	Parsuli	Bholaram	9685764988
167	Dhamdha	Parsuli	Manoj Kumar Patel	9827517178
168	Dhamdha	Parsuli	Gajanand Yadav	*9981184428*
169	Dhamdha	Parsuli	Yugal Kisor Patel	*9575659933*
170	Dhamdha	Parsuli	Anil Kumar	7898700339
171	Dhamdha	Parsuli	Sunil Kumar	9685528626
172	Dhamdha	Parsuli	Masdan Lal Patel	9630437177
173	Dhamdha	Parsuli	Latabai	Refused to Share
174	Dhamdha	Jatagharra	Mohan Yadav	Refused to Share
175	Dhamdha	Jatagharra	Baldau Singh Verma	7869877449
176	Dhamdha	Jatagharra	Dharam Pal Verma	7899342804
177	Dhamdha	Jatagharra	Rajpatel	9752614104
178	Dhamdha	Jatagharra	Baghi Radhi Patel	9589555284
179	Dhamdha	Jatagharra	Vivek Tyotivarm	8827986686
180	Dhamdha	Jatagharra	Ashok Patel	8342437999
181	Dhamdha	Jatagharra	Pawan Patel	9630753664
182	Dhamdha	Jatagharra	Ajay Chand	9752614104
183	Dhamdha	Jatagharra	Baburam Chandar	9981337440
184	Dhamdha	Barhapur	Shaty Ram Shahu	9777348505
185	Dhamdha	Barhapur	Dharmendhar Kumar Shahu	8085523691
186	Dhamdha	Barhapur	Laxman Sahu	9179865876
187	Dhamdha	Barhapur	Balram Varma	7898402806
188	Dhamdha	Barhapur	Purumshikham Shahu	8085064290
189	Dhamdha	Barhapur	Gouvinda Lala Sahu	9179015116
190	Dhamdha	Barhapur	Pachuram Shahu	Refused to Share
191	Dhamdha	Barhapur	Manshram Mandal	9669961871
192	Dhamdha	Barhapur	Nandhan Kishor Verama	7869331228

193	Dhamdha	Barhapur	Kishor Chan	Refused to Share
194	Dhamdha	Pendri	Duashuram	9752755109
195	Dhamdha	Pendri	Madhulala Shahu	9755602309
196	Dhamdha	Pendri	Shurendr Shahu	9179998259
197	Dhamdha	Pendri	Tirabak Shahu	9179998259
198	Dhamdha	Pendri	Chandreka Prshad	9981205268
199	Dhamdha	Pendri	Aruna Shahu	9981931409
200	Dhamdha	Pendri	Hemachandh Shahu	9685737347
201	Dhamdha	Pendri	Madhulala Shahu	9755060239
202	Dhamdha	Pendri	Deveharn	9589438580
203	Dhamdha	Pendri	Chattar Shing Chauhan	9630463650

Input Suppliers Consulted

Table 19: List of Input Suppliers Consulted

S.No	Name	Phone/Mobile	Name of Locality/Market
1	Pukesh Nishad	7225842455	Jhola
2	Sushil Krish kendra	9406086934	Dhamadha
3	Amit Tamrakar	9425567477	Dhamadha
4	Kishan Shangh	9300733362	Durg
5	Harish Kasher	9407782928	Durg
6	Ramesh Bhai Permar	7882210627	Durg
7	S. K Devgan	7882212052	Durg
8	Sahdev Jat	9300771550	Bhilai

Tomato Retailers Consulted

Table 20: List of Tomato Retailers Consulted

S .No	Name of Respondent	Phone/Mobile	Name of Locality/Market
1	G. P Gupta	7869671733	Durg
2	Suraj Kumar Shankar	9893081085	Indra Market
3	Shyam Sharma	9630606566	Indra Market
4	Jiten Drasonkar	9753224424	Indra Market
5	Raj kumar	9691567332	Indra Market
6	Shawan	8120048198	Dhamdha Mandi
7	Ram Naresh	9630399512	Dhamdha Mandi
8	Chameli	-	Dhamdha Mandi
9	Gohan Patel	8349022178	Dhamdha Mandi
10	Santosh Sahu	8798496530	Power House , Bhilai
11	Sanjay Dewangan	9926171027	Power House , Bhilai
12	Kewal Gupta	8120057116	Power House , Bhilai
13	Raj Kumar	8982411605	Power House , Bhilai
14	Manoj Gupta	9924261306	Power House , Bhilai

Tomato Commission Agents Consulted

Table 21: List of Tomato Commission Agents Consulted

S.No	Name of Respondent	Phone/Mobile	Name of Locality/Market
1	Virendra Pradhan	9755836060	Durg APMC
2	Mohmad Gilani	9827726874	Durg APMC
3	Murali	9993332374	Durg APMC
4	Loknath Dhimar	9827160127	Durg APMC
5	Rajesh kumar Srivastav	9424125886	Durg APMC
6	Gadeshwar hire	8817838368	Dhamdha Mandi
7	Kelu Ram	8969816576	Dhamdha Mandi
8	Kalicharan tiwari	8982038958	Dhamdha Mandi
9	Yaswant Sonkar	9893148944	Dhamdha Mandi
10	Gajendra pandey	9300276408	Akash Ganga Mandi Supela
11	Ram Ratan Gupta	8085743705	Akash Ganga Mandi Supela
12	Jagdish jaysawal	9302833281	Akash Ganga Mandi Supela
13	Dev Nath gupta	9300357612	Akash Ganga Mandi Supela
14	A.K Bhawani	9302391621	Akash Ganga Mandi Supela

PROVISIONAL AREA, PRODUCTION & PRODUCTIVITY OF HORTICULTURE CROPS IN CHHATTISGARH

Year - 2017-18

Sl. No.	Crops	2017-18 (Provisional)		
		Area (in ha.)	Production (in MT)	Productivity (in MT per ha.)
1	2	3	4	5
1	Fruits	261132	2621475	10.04
2	Vegetables	477753	6838445	14.31
3	Spices	101304	726115	7.17
4	Flowers	13383	62485	4.67
5	Medicinal & Aromatics	8758	61932	7.07
	Total	**862330**	**10310452**	**11.96**

29/5/18

(Narendra Kumar Pandey)
IFS
Director
Horticulture & Farm Forestry
Chhattisgarh, Raipur

PROVISIONAL AREA UNDER FRUITS CROP YEAR - 2017-18

(in Hectare)

Sl. No.	Name of Fruits	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Bastar	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Mango	2597	3149	620	1081	2293	1100	1237	985	2730	3366	1679	1724	3000	1268	170	6728	2345	3290	5098	7460	4781	6275	3993	3897	2787	2078	165	[illegible]
2	Banana	3494	1197	170	1581	1035	1950	635	1020	920	593	313	497	350	290	259	2819	955	892	1126	1580	375	1100	1745	2432	890	13	376	27817
3	Papaya	1148	1069	0	1997	453	1350	181	670	363	329	101	382	250	44	90	2064	535	785	155	164	110	600	297	1173	647	221	192	[illegible]
4	Guava	1077	1073	0	1102	995	750	324	520	560	1020	106	243	1780	160	100	2614	563	1430	2167	1172	290	1050	975	795	896	318	50	[illegible]
5	Lemon	824	1007	180	673	24	175	241	240	605	870	75	351	586	98	15	2346	485	375	6	855	565	700	684	595	650	134	45	[illegible]
6	Orange	0	0	0	0	13	8	18	0	15	0	0	0	0	0	0	4	0	0	3	35	0	0	1	1	0	0	0	[illegible]
7	Jack Fruit	63	157	0	595	460	85	8	25	153	390	610	662	1550	43	30	1710	313	25	166	810	475	650	520	285	478	83	45	[illegible]
8	S. Orange	6	0	0	0	0	49	31	20	18	0	0	7	0	0	5	7	1	38	70	70	0	0	0	0	0	119	0	[illegible]
9	Cashew Nut	0	0	0	0	11	0	85	0	8	0	8241	5002	3600	788	50	0	0	0	57	8080	1280	0	0	0	177	1311	17	[illegible]
10	Custard Apple	64	583	0	288	25	153	13	0	397	875	96	386	1580	35	2	1949	454	0	1135	40	300	0	0	0	810	106	22	[illegible]
11	Litchi	0	0	0	0	0	0	0	0	0	0	13	10	0	3	0	11	0	10	25	745	1722	2175	1464	850	650	70	0	[illegible]
12	Water Melon	473	674	180	298	120	30	25	46	528	0	39	32	155	0	20	13	14	225	220	110	28	0	323	0	0	25	0	[illegible]
13	Musk Melon	232	289	80	244	49	31	52	45	113	0	69	42	115	0	20	44	1	230	120	90	6	0	0	0	3	0	0	[illegible]
14	Ber	460	152	0	260	200	30	109	76	75	0	76	290	200	15	0	29	16	395	1125	380	160	0	0	0	0	33	0	[illegible]
15	Aonla	128	470	0	86	525	35	19	30	97	705	107	232	120	15	0	77	32	85	221	214	25	0	0	0	590	0	0	[illegible]
16	Sapota	22	0	0	0	0	60	13	0	12	0	35	108	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]
17	Pome Granate	52	119	0	67	0	49	19	50	50	15	47	0	20	0	0	0	20	37	0	30	25	0	33	0	0	25	0	[illegible]
18	Grape	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]
19	Coconut	74	0	0	0	125	0	0	0	0	0	236	608	170	31	25	30	0	0	0	25	2	0	0	2	0	110	13	[illegible]
20	Pear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	650	500	289	247	0	0	0	[illegible]
21	Other	542	1374	0	2149	1898	610	324	270	25	601	744	2192	915	88	20	8127	1490	780	2760	2220	330	810	986	490	310	275	55	[illegible]
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Director Horticulture
C.G. Raipur

PROVISIONAL PRODUCTION UNDER FRUITS CROP YEAR - 2017-18

(in Metric-Ton)

Sl. No.	Name of Fruits	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koriya	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Mango	12090	21368	3233	3947	7205	4138	4806	3837	9828	17752	8516	14508	12900	7456	1700	26912	9960	11515	23086	16878	47810	59613	43570	26093	18461	21586	1340	[illegible]
2	Banana	60540	26792	3933	53198	16610	53540	11723	29480	28520	16308	7666	15180	8767	6613	7006	53567	25540	24030	31359	79010	9000	13200	22523	32308	19800	365	2708	642796
3	Papaya	47790	24023	0	31539	3708	13377	7246	27270	3483	3862	2341	8676	4030	1097	300	52532	14983	17527	1523	12556	2385	8835	4040	22283	16258	6633	726	398709
4	Gauva	8570	10253	0	13236	3803	6096	3758	4420	4320	14097	807	2032	14774	1392	1000	19605	3982	12228	22020	9142	2219	9450	6638	4423	8187	6358	503	194027
5	Leman	5312	9205	1260	4703	72	1179	1611	1560	3632	6525	332	3446	3534	717	120	16422	3134	2636	134	2729	1108	5900	5902	4088	5159	12220	323	107292
6	Orange	8	0	0	0	708	33	120	0	120	0	0	0	0	0	0	16	0	0	32	200	0	0	0	0	0	0	0	1248
7	Jack Fruit	473	0	0	13904	6710	1832	54	500	2754	4488	13467	12214	27912	847	1250	25638	1509	443	2018	48600	11661	5558	4737	2452	8256	1733	154	203975
8	S. Orange	44	0	0	0	0	375	228	143	126	0	0	40	0	0	0	11	8	774	460	420	0	0	0	0	0	178	0	2429
9	Cashew Nut	0	0	0	0	120	0	0	0	9	0	6655	4753	3708	658	12	0	0	0	61	4239	896	0	0	0	1255	2267	33	24847
10	Custard Apple	132	3661	0	1516	75	339	15	0	992	11231	241	3462	6889	673	0	4873	1910	0	5902	132	684	0	0	0	4880	528	48	49565
11	Lichi	0	0	0	0	0	0	0	0	0	0	3	38	0	62	0	37	0	7	22	2890	3040	20196	11829	5564	4411	704	0	51227
12	Water Melon	9494	2374	1350	4472	1290	1133	162	1200	1408	0	654	390	1294	0	500	45	678	20272	3082	2902	204	0	4524	0	0	25	0	59193
13	Musk Melon	1808	2035	640	3171	348	435	334	960	1150	0	3183	396	1018	0	500	132	309	2208	1500	2120	0	0	0	0	0	0	0	20012
14	Ber	9515	1884	0	3109	4414	381	795	350	1125	0	2120	4614	4368	271	0	316	60	8735	24975	10521	2895	0	0	0	0	50	0	86278
15	Aonla	3020	2701	0	812	1232	1411	77	900	1552	9109	1730	4087	1676	163	0	398	95	1352	450	2842	232	0	0	0	8340	0	0	34040
16	Sapota	80	0	0	0	0	294	31	0	36	0	247	275	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	1011
17	Pome Granate	169	457	0	203	0	131	59	100	125	0	91	0	0	0	0	0	36	106	0	75	8	0	1735	0	0	2	0	3443
18	Grape	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Coconut	55	0	0	0	784	0	0	0	0	0	774	8851	1390	811	250	90	0	0	0	10	88	0	0	0	0	350	37	13256
20	Pear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	650	4600	491	851	0	0	0	6592
21	Other	3551	15874	0	25113	10860	6913	2031	1080	125	5862	7440	37748	4136	784	200	48642	11920	8260	21090	12379	5990	8347	9182	4209	6996	3500	178	275834
	Total	350257	121347	16458	350913	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22119	12833	249002	75206	159746	142850	221347	95299	135714	117389	103877	102607	57767	4240	2820478

Director Horticulture
C.G. Raipur

PROVISIONAL AREA UNDER VEGETABLE CROPS YEAR 2017-18

(In Hectare)

Sr. No.	Name of Vegetable	Raipur	Balodabazar	Gariaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Korea	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Cauliflower	1655	381	190	546	620	3320	1270	1430	905	465	373	2506	1100	120	25	1272	405	695	1105	690	375	1090	1302	483	738	114	17	32736
2	Cabbage	1238	274	150	401	595	3310	1467	1485	212	555	706	2345	850	113	25	1251	490	670	1080	1010	305	1259	1023	490	616	151	44	21681
3	Knol Khol	262	605	0	98	230	1305	256	775	230	341	39	214	150	15	0	153	60	252	517	220	0	0	0	3	6	0	0	6090
4	Brinjal	3384	1264	180	1589	1305	4550	1361	1470	1941	1500	882	5406	1750	232	80	1905	553	1378	1209	1730	295	1640	560	1138	737	305	70	38027
5	Tomato	4530	751	150	2453	1090	10800	2139	2700	2520	1400	882	4218	1750	448	160	7000	2050	2255	550	3430	5563	2306	1021	1020	1490	313	121	66681
6	Bhindi	2769	97	110	1562	1250	3300	920	1380	1030	805	695	3778	1370	358	155	2135	600	1172	1789	1370	326	1565	841	948	1296	271	94	31118
7	Potato	3856	663	180	1007	580	940	311	990	2045	300	221	1968	1000	130	15	5811	1400	898	1415	3390	2700	4580	2143	4060	2260	186	0	43947
8	Cowpea	438	650	80	0	33	1750	558	1035	515	155	204	330	270	68	10	5895	1125	235	1520	370	283	0	120	0	444	0	0	16018
9	Green Pea	301	783	90	322	85	490	182	420	927	176	154	980	230	13	3	338	92	387	840	610	205	1475	730	25	374	0	0	9785
10	Bitter Gaurd	859	51	100	1382	725	1448	539	940	393	735	375	696	550	42	75	305	152	282	825	280	156	483	560	275	410	106	24	13648
11	Beans	125	398	90	426	120	480	46	60	607	271	176	916	380	11	6	30	32	528	575	580	45	248	300	480	344	3	0	7859
12	Cluster Beans	125	76	40	145	50	840	220	373	370	315	88	115	202	0	0	121	38	340	511	90	68	0	0	0	0	0	0	4053
13	Kaddu	904	2005	170	771	125	515	51	95	115	205	248	174	490	74	15	133	92	385	58	180	31	529	55	545	377	85	0	9616
14	Bottel Gaurd	814	433	180	1906	630	1570	570	1030	280	310	234	908	850	110	30	198	100	230	1409	640	315	140	192	425	513	284	33	15739
15	Drum Stick	10	140	60	232	23	35	17	20	38	155	24	106	300	22	0	165	38	200	760	150	17	0	2	0	0	0	0	2574
16	Sponge Gaurd	49	408	70	96	40	35	6	40	32	171	56	01	284	10	0	80	22	133	317	220	51	0	10	2	407	0	0	2775
17	Arbi	513	154	100	177	10	760	98	700	670	600	625	811	100	540	0	457	130	325	422	218	87	350	60	432	685	0	17	7989
18	Radish	476	330	90	787	215	900	100	330	595	480	309	4535	725	150	40	241	136	286	789	300	78	516	300	0	336	112	49	13875
19	Carrot	0	188	30	235	15	350	71	190	61	205	0	1	155	2	0	117	48	130	300	53	11	44	60	0	0	0	0	2714
20	Leafy Veg	300	106	100	328	165	1330	250	620	890	345	332	317	400	90	22	765	182	475	342	760	315	125	181	50	110	0	12	9940
21	Kundru/Perwal	226	65	30	0	25	400	78	200	65	0	61	393	250	25	0	27	18	120	174	180	20	0	150	0	400	0	0	2932
22	Sweet Potato	107	165	30	239	140	165	40	330	32	145	78	300	250	0	0	356	78	38	185	150	135	570	60	510	0	50	0	4228
23	Jimikand	94	0	90	118	30	158	31	130	234	205	100	80	590	12	0	80	33	45	217	44	0	250	0	0	364	0	0	3006
24	Onion	3690	244	260	1539	765	1750	518	720	860	1315	865	2305	1900	160	90	425	802	850	188	1490	430	1250	1561	1320	198	303	231	26438
25	Other	2632	692	0	1084	3620	2695	642	1000	99	565	607	3237	830	363	60	44676	8220	701	2715	2060	260	2748	15537	0	1780	377	148	100882
	Total	25590	11255	2570	16084	12243	40825	11895	16977	15728	11095	6456	36086	16980	3122	813	76588	17785	15421	20778	26590	11917	24786	26344	12888	16179	3696	896	417793

Director Horticulture
C.G. Raipur

PROVISIONAL PRODUCTION UNDER VEGETABLE CROPS YEAR 2017-18

(In Metric-Ton)

Sl. No.	Name of Vegetable	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koriya	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Cauliflower	32748	9993	380	9564	8109	68000	22918	28610	34028	10890	9885	92171	17875	2272	625	19080	14136	15560	29457	11610	4641	17520	22702	7861	12022	2574	154	479568
2	Cabbage	29936	7006	2925	7619	7973	66816	31879	29733	3499	6200	13883	37520	13344	2134	625	18140	21000	13275	24886	17905	3490	18075	17158	7029	11211	2014	448	408145
3	Knol Khol	2798	10158	0	691	4070	16578	3110	9310	2760	2338	430	2442	5902	202	0	1836	1796	718	8070	2566	0	0	0	36	0	0	0	78414
4	Brinjal	65865	25114	3015	27012	19908	114702	34896	56755	70070	30000	14762	79306	27087	4236	2400	28070	20147	38248	22271	33078	9013	24755	8868	18095	16805	3961	667	783419
5	Tomato	78943	11499	2325	77412	13496	200000	55077	67530	30160	26000	11020	65728	19887	7414	4800	102609	60420	96237	14822	36802	83473	34572	11922	27876	26178	5957	1222	[illegible]
6	Bhindi	28221	9881	1100	14651	10352	23620	4841	13560	14145	12075	6343	22473	13494	3698	2325	19211	14320	11600	17566	18707	7260	16717	13116	9410	11998	2206	864	[illegible]
7	Potato	64652	10521	2790	18124	4236	23598	6201	27730	22517	4000	4452	17866	11550	1998	300	37565	26332	16720	19605	53590	48600	90826	18872	64273	35402	3718	0	[illegible]
8	Cowpea	6886	7916	440	0	801	18949	8565	13440	2060	1240	827	1317	1867	960	100	126741	11475	2387	6748	9464	3913	0	1654	0	6783	0	0	[illegible]
9	Green Pea	1979	12168	835	2283	1478	3703	1361	6830	41712	3408	1714	2604	1058	156	30	2873	1635	2670	4003	5698	2050	14550	10219	299	1343	0	0	[illegible]
10	Bitter Gaurd	993	617	1200	14007	6373	13941	6480	8973	26950	4720	4102	6960	3033	498	1030	1081	1368	3892	8638	3343	1392	4835	3509	3181	5046	830	4	[illegible]
11	Beans	1119	3856	765	3834	576	4095	390	320	5160	2703	1610	7740	3200	119	60	249	448	3699	3881	4836	358	6930	4173	4335	3937	0	0	[illegible]
12	Cluster Beans	923	4863	220	1161	833	6576	1655	4526	1190	5598	427	731	1295	0	0	809	320	2380	4001	626	476	0	0	0	0	0	0	[illegible]
13	Kaddu	11433	29804	2040	10023	881	11642	1270	2380	1782	3690	3960	7987	5488	984	325	1361	1564	10856	782	2349	612	3736	800	3998	3344	1056	0	[illegible]
14	Botel Gaurd	13637	4425	1620	17153	3706	40643	14385	27938	4620	6200	4244	14082	13375	2013	900	3088	2415	4347	25074	10875	5270	11602	2886	7216	9480	2979	319	[illegible]
15	Drum Stick	306	1002	340	1392	415	407	111	120	232	1348	117	377	1050	144	0	305	334	766	7642	569	48	0	0	0	0	0	0	[illegible]
16	Sponge Gaurd	399	4400	380	864	160	284	45	305	224	2052	725	131	1908	86	0	332	330	3613	3022	1716	828	0	166	0	5580	0	0	[illegible]
17	Arbi	4179	1385	1400	2213	80	1120	681	1390	3980	12100	10100	11421	4320	7706	0	3463	3900	3105	6343	2955	1218	4783	868	3905	7560	0	17	[illegible]
18	Radish	11790	2453	2340	12201	2486	11102	3248	3960	18115	6790	3324	77095	12020	3229	800	5374	3264	4739	18037	7889	959	11519	6412	0	9799	1907	380	[illegible]
19	Carrot	0	1560	275	2986	320	4802	988	2290	443	3633	0	0	1271	28	0	1366	640	1134	5800	447	163	300	876	0	0	0	0	[illegible]
20	Leafy Veg.	2861	1776	900	2951	3502	20856	4404	9318	6675	3650	2270	2158	2640	963	220	4512	3627	4251	4109	6750	2803	736	2738	2007	1320	0	12	[illegible]
21	Kundru/Perwal	2761	793	165	0	290	4471	923	2438	693	0	735	4758	2795	316	0	305	101	1380	2347	3086	224	0	3282	0	4750	0	0	[illegible]
22	Sweet Potato	1130	1630	180	2573	1852	1187	403	1100	288	2465	469	6206	3238	93	0	2218	420	380	3468	2356	1250	5671	819	3035	0	911	0	[illegible]
23	Jimikand	720	0	380	1363	180	2978	1030	2650	1287	1666	744	528	8247	102	0	327	832	293	1651	455	0	1250	0	0	2750	0	0	[illegible]
24	Onion	64883	977	10920	26142	11356	40612	10885	14450	12960	19725	11412	23155	33240	2562	900	6588	9831	15725	2534	36185	6880	19125	22727	20081	12619	9718	2142	[illegible]
25	Other	12080	14863	0	10943	33742	79912	9786	13050	314	3430	4021	18289	3092	3289	900	290294	10156	3029	30051	17967	2851	18261	113964	0	12585	4669	710	[illegible]
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Director Horticulture
C.G. Raipur

PROVISIONAL AREA UNDER SPICES CROPS YEAR 2017-18

(in Hectare)

Sl. No.	Name of Spices	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Zinger	157	134	100	186	143	622	195	240	350	55	496	764	200	30	40	2034	564	158	736	1735	100	1310	423	800	560	122	5	12188
2	Coriander	2507	211	280	3443	1000	748	422	960	500	850	377	1370	135	92	25	1799	897	300	819	2300	250	180	458	490	317	280	5	19815
3	Chili	157	347	110	1779	1115	1865	896	1080	2860	4150	1279	2630	183	360	200	3275	903	1035	3479	4570	1600	2470	1143	35	1706	287	13	37928
4	Garlic	175	0	0	177	83	110	89	110	30	135	54	150	15	0	5	387	86	178	730	270	125	131	127	180	404	0	0	4720
5	Termeric	246	135	0	293	448	390	283	325	520	227	378	718	100	140	80	564	93	170	832	450	165	1317	623	1485	860	132	41	13158
6	Kanyat	0	0	0	0	0	0	0	0	2	0	0	7	0	0	0	126	35	0	0	0	0	0	0	0	0	0	0	167
7	Methi	46	142	100	257	116	70	0	23	170	405	48	0	28	20	0	1250	255	253	738	20	12	0	0	0	198	0	0	4110
8	Ajwain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126	32	0	0	0	0	0	0	0	0	0	0	163
9	Other	305	30	0	1176	495	1624	242	350	36	350	198	935	170	18	20	1641	183	225	214	620	0	0	218	2	1679	209	220	14647
	Total	3863	1199	591	7509	3416	5232	1715	3708	3828	6697	3223	6044	768	650	365	11383	3238	2471	6548	10040	2402	5313	3002	3378	9332	951	289	101304

PROVISIONAL PRODUCTION OF SPICES CROPS YEAR 2017-18

(in Metric-Ton)

Sl. No.	Name of Spices	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Zinger	1941	7557	350	2329	1146	11163	4711	8000	4457	825	4026	6201	1440	350	800	16402	10067	3942	9095	18810	1200	14520	5030	8780	7212	1188	17	149874
2	Coriander	18978	827	1120	7391	5230	3080	4298	9635	1750	850	950	3863	378	350	50	1779	1146	1475	3716	9852	975	2221	2898	1931	2574	136	13	93964
3	Chili	8159	868	713	21351	8048	6567	1459	2923	14420	41500	13537	15780	1350	2258	1200	25025	8379	6457	16402	39029	11502	24695	51034	347	11687	1654	35	380713
4	Garlic	142	0	0	1382	374	295	214	275	50	540	268	798	69	0	0	1935	413	385	4249	3512	688	417	977	3954	2740	0	0	22555
5	Termeric	847	548	0	3077	3403	7853	4155	3465	3900	3405	4668	5098	750	1446	1600	3640	977	4321	6282	8127	1240	1317	7190	16272	3275	2495	332	106901
6	Kanyat	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	252	33	0	0	0	0	0	0	0	0	0	0	332
7	Methi	128	335	300	1672	1678	1416	0	75	235	4050	30	0	42	80	0	3750	334	325	5181	30	30	0	0	0	560	0	0	19779
8	Ajwain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	189	42	0	0	0	0	0	0	0	0	0	0	230
9	Other	341	229	0	5871	3125	4917	678	830	60	1640	3513	6999	328	80	40	7220	411	1148	1519	3619	0	0	3094	0	9710	2282	511	67780
	Total	23736	10726	2845	43093	22424	41391	15505	24326	24953	52810	26940	37549	4956	4052	3690	60215	22266	18527	46977	72979	15633	43670	29543	31172	39888	8846	660	725615

24/5/18

Director Horticulture
C.G. Raipur

PROVISIONAL AREA UNDER FLOWERS CROPS YEAR 2017-18

(in Hectare)

Sl. No.	Name of Flowers	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Marigold	200	62	35	436	110	145	75	85	56	30	108	640	25	175
2	Rose	85	56	12	104	13	40	37	35	5	0	7	88	5	18
3	Tuberose	247	102	0	0	75	78	36	30	25	0	0	22	0	0
4	Cryasanthimum	0	0	0	0	8	25	0	8	0	0	0	0	0	0
5	Gladiolus	215	90	8	0	51	87	0	60	30	0	30	104	0	21
6	Jasmin	23	0	0	0	10	0	0	0	0	0	0	0	0	0
7	Galardia	15	0	0	0	6	0	0	0	0	0	0	0	0	1
8	Other	301	140	0	488	87	365	47	30	0	20	35	114	20	37
	Total -	1090	830	55	1242	362	640	203	248	116	50	180	968	50	252

Sl. No.	Name of Flowers	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koriya	Narayanpur	Bijapur	Total
1	2	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Marigold	15	383	252	488	659	167	30	90	265	450	136	24	30	4595
2	Rose	0	223	87	30	217	25	1	5	53	13	0	3	0	1270
3	Tuberose	0	398	68	0	123	250	8	215	29	32	93	98	0	1756
4	Cryasanthimum	0	111	76	0	122	0	0	0	0	0	0	0	0	350
5	Gladiolus	0	229	203	0	109	330	0	115	39	106	148	0	0	2123
6	Jasmin	0	5	1	0	0	10	0	0	0	0	0	0	0	49
7	Galardia	0	123	28	0	0	10	0	0	0	0	0	0	0	183
8	Other	5	252	76	290	433	52	8	35	146	25	24	22	10	3649
	Total -	20	1474	675	805	1663	793	51	460	557	652	450	144	30	12080

PROVISIONAL PRODUCTION OF FLOWERS CROPS YEAR 2017-18

(in Metric-Ton)

Sl. No.	Name of Flowers	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Marigold	1108	234	545	3700	525	1118	534	615	425	75	1120	3256	200	796
2	Rose	148	93	66	1027	28	78	96	95	8	0	7	93	9	14
3	Tuberose	1144	205	0	0	187	580	172	145	100	0	0	34	0	0
4	Cryasanthimum	6	0	0	0	22	353	0	35	0	0	0	0	0	0
5	Gladiolus	965	92	44	0	85	200	10	125	175	0	19	51	0	15
6	Jasmin	44	0	0	0	20	0	0	0	0	0	0	0	0	0
7	Galardia	84	0	0	0	14	0	0	0	0	0	0	0	0	4
8	Other	437	230	0	1592	155	261	69	90	0	40	620	101	24	56
	Total-	3890	532	255	6325	1066	2425	872	1095	708	115	1766	3572	232	885

Sl. No.	Name of Flowers	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koriya	Narayanpur	Bijapur	Total
1	2	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Marigold	116	3067	2806	1203	4630	951	167	620	2088	3193	1248	414	210	34640
2	Rose	0	932	889	30	525	65	2	0	399	80	0	0	0	4673
3	Tuberose	0	664	340	0	384	950	16	1180	46	379	460	127	0	6793
4	Cryasanthimum	0	167	78	0	331	0	0	0	0	0	0	0	0	[illegible]
5	Gladiolus	0	968	612	0	841	650	0	317	99	321	483	0	0	6077
6	Jasmin	0	8	1	0	0	8	0	0	0	0	0	0	0	81
7	Galardia	0	587	156	0	0	11	0	0	0	0	0	0	0	[illegible]
8	Other	50	370	434	1108	595	10	4	116	167	122	299	5	0	8125
	Total-	165	6621	5527	2341	7316	2652	209	2234	3250	4095	2088	546	210	62485

Director Horticulture
C.G. Raipur

PROVISIONAL AREA UNDER MEDICINAL & AROMATICS CROPS YEAR 2017-18

(in Hectare)

Sl. No.	Name of Med. & Aromatic	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Lemon Grass	40	0	15	0	25	0	26	0	2	0	317	48	0	0	0	390	78	0	224	80	0	0	0	33	360	0	0	1648
2	Khush	0	0	10	0	0	0	0	0	0	0	0	6	0	0	0	196	52	0	153	210	0	0	0	6	260	0	0	891
3	Aloevera	12	0	12	0	40	0	27	25	3	0	0	35	0	0	0	130	31	0	15	11	0	2	0	2	6	0	0	353
4	Safed Musli	0	0	7	0	0	0	5	0	0	0	6	27	0	0	0	100	23	0	36	0	0	0	0	0	0	0	0	235
5	Butch	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	119	26	0	15	0	0	0	0	0	6	0	0	165
6	Serpa Gandha	6	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	10	0	0	0	2	2	0	0	0	25
7	E-Citridora	0	0	3	0	0	0	11	0	0	0	311	3	0	0	0	353	72	0	516	208	0	0	0	365	435	0	0	2336
8	Ashwagandha	6	0	3	0	0	0	0	0	0	0	0	0	0	0	0	106	26	0	28	0	0	0	0	0	0	0	0	177
9	Patchauli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	0	0	0	0	0	0	5
10	Sarpy	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2	0	18	0	0	0	0	0	3	0	0	45
11	Pam +Jam rosa	10	0	0	0	0	0	0	0	0	0	34	0	0	0	0	499	108	0	130	240	0	0	0	10	0	0	0	1100
12	Other	13	0	9	0	28	0	0	0	3	0	0	101	12	0	0	760	156	0	150	85	40	0	0	39	35	11	8	2094
	Total-	132	3	67	0	93	0	172	25	13	0	398	329	32	0	0	2597	570	0	1985	802	55	2	0	275	1098	11	8	8756

PROVISIONAL PRODUCTION OF MEDICINAL & AROMATICS CROPS YEAR 2017-18

(in Metric-Ton)

Sl. No.	Name of Med. & Aromatic	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Lemon Grass	602	0	81	0	287	0	175	0	12	0	4704	240	0	0	3	4375	1042	0	4557	1088	0	0	0	1122	4132	0	0	23473
2	Khush	0	0	55	0	0	0	0	0	0	0	0	48	0	0	0	2626	716	0	1332	3099	0	0	0	120	2341	0	0	10374
3	Aloevera	144	0	66	0	370	0	337	200	50	0	0	281	0	0	0	1222	384	0	38	0	0	0	0	0	0	0	0	2994
4	Safed Musli	0	0	19	0	0	0	0	0	0	0	4	36	0	0	0	183	25	0	22	0	0	0	0	0	0	0	0	289
5	Butch	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	417	106	0	24	0	0	0	0	0	0	0	0	550
6	Serpa Gandha	25	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	8	0	31	0	0	0	0	0	0	0	0	[illegible]
7	E-Citridora	0	0	79	0	0	0	74	0	0	0	450	14	0	0	0	1790	378	0	2205	1108	0	0	0	760	3915	0	0	10692
8	Ashwagandha	13	0	42	0	0	0	0	0	0	0	0	6	0	0	0	127	40	0	31	0	0	0	0	0	0	0	0	258
9	Patchauli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Sarpy	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	22	0	0	29	0	0	0	0	0	0	0	0	57
11	Pam +Jam rosa	92	0	0	2	0	0	0	0	0	0	428	23	0	0	11	1058	316	0	170	429	0	0	0	250	0	0	0	3022
12	Other	191	0	50	0	124	0	0	0	40	0	0	202	24	0	0	814	239	0	1618	189	10	0	0	6480	441	1	4	10665
	Total-	1071	0	374	0	785	0	586	200	104	0	5676	858	24	0	0	13087	3144	0	10905	5973	10	0	0	8732	10829	1	4	[illegible]

[illegible] 24/5/18

Director Horticulture

C.G. Raipur

AREA, PRODUCTION & PRODUCTIVITY OF HORTICULTURE CROPS IN CHHATTISGARH

Year - 2016-17

Sl. No.	Crops	2016-17		
		Area (in ha.)	Production (in MT)	Productivity (in MT per ha.)
1	2	3	4	5
1	Fruits	250219	2477094	9.90
2	Vegetables	463251	6556502	14.15
3	Spices	96617	683333	7.07
4	Flowers	12169	56215	4.62
5	Medicinal & Aromatics	8543	60791	7.12
	Total	**830799**	**9833935**	**11.84**

24/5/17

(Narendra Kumar Pandey)
IFS
Director
Horticulture & Farm Forestry
Chhattisgarh, Raipur

AREA UNDER FRUITS CROP YEAR - 2016-17

(in Hectare)

Sl. No.	Name of Fruits	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Mango	3460	2860	800	966	2275	3050	1213	975	2600	2996	1662	1680	2970	1172	120	5137	2165	3276	3698	7467	4035	6050	4800	3682	2340	1899	330	74875
2	Banana	2402	1088	160	1427	1930	1890	413	580	895	800	303	487	315	240	280	2650	855	976	1126	1570	275	1050	1602	2267	890	11	240	26032
3	Papaya	1156	972	0	1815	850	1320	177	685	355	270	540	307	210	48	30	1889	500	758	100	254	110	400	254	900	600	201	165	14405
4	Guava	1044	979	0	1002	892	700	318	515	535	980	105	239	1760	136	100	2954	773	1150	2104	1162	250	1050	833	753	800	284	45	21250
5	Lemon	772	915	170	612	24	170	236	230	595	820	76	324	751	98	15	2133	480	508	5	845	305	700	651	560	640	140	40	13580
6	Orange	0	0	0	0	15	8	18	0	15	0	0	0	0	0	0	1	0	0	2	28	0	0	0	0	0	0	0	86
7	Jack Fruit	54	143	0	541	654	85	7	21	151	275	608	849	1310	42	40	1150	311	22	164	802	475	650	490	285	440	75	40	9980
8	S. Orange	6	0	0	0	6	49	30	15	18	0	0	6	0	0	0	6	1	31	70	60	8	0	0	0	0	108	0	451
9	Cashew Nut	0	0	0	0	11	0	61	0	8	0	8139	4985	3570	788	5	0	0	0	57	8976	1280	0	0	0	150	1374	15	29099
10	Custard Apple	60	530	0	362	85	152	17	0	295	815	95	183	1520	28	0	1772	429	0	1131	40	106	0	0	2	390	96	20	8514
11	Litchi	0	0	0	0	0	0	0	0	0	0	11	9	0	8	0	9	0	8	25	745	1220	2130	1354	395	630	64	0	7617
12	Water Melon	447	613	170	271	110	48	29	50	120	0	39	71	100	2	10	11	18	212	250	102	28	0	508	0	0	23	0	2980
13	Musk Melon	224	717	70	322	69	30	31	85	103	0	68	41	100	0	10	33	1	221	119	86	0	0	0	0	0	0	0	2229
14	Ber	437	138	0	236	385	40	102	45	30	0	90	190	250	10	0	27	16	282	1123	507	100	0	0	0	0	30	0	4235
15	Aonla	219	427	0	78	525	35	19	15	90	665	106	227	119	19	0	70	30	75	221	214	25	0	0	0	180	0	0	2336
16	Sapota	30	0	0	6	0	48	13	0	2	0	35	118	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	177
17	Pome Granate	48	108	0	61	0	49	19	40	15	3	46	0	18	0	0	0	0	30	0	36	25	0	50	0	0	21	0	569
18	Grape	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]
19	Coconut	69	0	0	0	225	0	0	0	0	0	233	450	360	31	20	28	0	0	0	25	2	0	0	0	0	300	12	[illegible]
20	Pear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	375	300	375	145	0	0	0	1195
21	Other	511	1249	0	1954	1816	565	318	260	20	531	737	2648	906	99	15	7572	1488	675	2701	2215	559	850	558	438	470	350	50	27705
	Total	[illegible]	[illegible]	1170	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12490	12220	[illegible]	[illegible]	[illegible]	22440	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	782	250219

Director Horticulture
C.G. Raipur

PRODUCTION UNDER FRUITS CROP YEAR - 2016-17

(In Metric-Ton)

Sl. No.	Name of Fruits	Raipur	Balodabazar	Gariaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koriya	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Mango	12109	19607	3030	3409	7163	3950	4712	3780	9310	17172	8390	14283	12771	6891	1200	20458	9577	11433	23875	36804	46116	57675	41305	24654	18150	16169	1401	[illegible]
2	Banana	56003	24156	3600	30176	18040	53822	10649	27705	20650	14072	7550	14883	7891	5483	5600	47772	23940	33468	31556	78509	9000	13900	21450	30493	19800	330	2490	[illegible]
3	Papaya	40818	21839	0	46841	3744	51400	5104	26035	6560	5259	2518	8507	3585	1084	300	40550	13816	17158	3488	12213	2585	8835	5752	18771	14625	6030	660	[illegible]
4	Guava	8250	9312	0	13034	5048	6230	2300	4370	4380	14259	795	3490	14608	1340	1000	17885	5338	11500	22618	9084	2219	9450	6022	3820	7250	5780	457	[illegible]
5	Lemon	4087	8468	1100	4281	72	1142	1579	1826	3570	6030	327	3376	3322	717	120	12190	2121	3458	112	5662	1102	5900	5621	3848	3100	11200	294	[illegible]
6	Orange	0	0	0	0	700	55	118	0	120	0	0	0	0	0	0	10	0	0	32	160	0	0	0	0	0	0	0	[illegible]
7	Jack Fruit	969	0	0	10823	6625	1832	33	415	2718	2740	15238	11934	27095	837	1000	22518	1807	388	3870	48120	11650	5535	4530	2423	7600	1575	140	[illegible]
8	S. Orange	40	0	0	0	0	375	224	110	120	0	0	42	0	0	0	2	8	111	462	360	0	0	0	0	0	162	0	[illegible]
9	Cashew Nut	0	0	0	0	121	0	0	0	9	0	6589	4660	3077	638	1	0	0	0	40	4237	768	0	0	0	1200	2061	30	[illegible]
10	Custard Apple	120	3028	0	1379	40	535	15	0	987	10534	239	1436	6462	136	0	4250	1716	0	3852	132	684	0	0	0	4760	480	44	[illegible]
11	Lichi	0	4	0	0	0	0	0	0	0	0	7	32	0	62	0	12	0	4	22	3890	3500	19500	11275	4820	4030	640	0	[illegible]
12	Water Melon	3244	2176	1100	4066	1280	1088	139	1080	1280	0	628	378	1125	55	250	40	642	10932	3692	2417	204	0	4318	0	0	23	0	[illegible]
13	Musk Melon	1715	1850	325	2594	240	370	321	850	945	0	1171	387	885	0	250	47	300	2124	1488	3026	0	0	0	0	0	0	0	[illegible]
14	Ber	8740	1713	0	2819	4258	305	705	325	1050	0	2099	4522	4200	181	0	82	53	8404	24091	10280	2896	0	0	0	0	45	0	[illegible]
15	Aonla	2948	2455	0	741	3252	3411	75	675	1446	8592	1713	4250	1351	162	0	182	87	1178	453	2842	333	0	0	0	8540	0	0	[illegible]
16	Sapota	33	0	0	0	0	236	50	0	6	6	245	270	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]
17	Pome Granate	154	870	0	182	0	171	38	83	87	76	89	0	0	0	0	0	0	158	0	54	8	0	1950	0	0	2	0	[illegible]
18	Grape	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Coconut	30	0	0	0	786	0	0	0	0	0	766	8274	1230	821	200	50	0	0	0	10	38	0	0	0	0	300	34	[illegible]
20	Pear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	377	4400	658	502	0	0	0	[illegible]
21	Other	3288	14431	0	20007	10893	9676	2941	1040	300	6292	7366	20125	8104	784	130	37993	11904	7939	21068	12351	5590	8347	8745	7867	6450	3000	133	[illegible]
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Director Horticulture
C.G. Raipur

AREA UNDER VEGETABLE CROPS YEAR 2016-17

(In Hectare)

Sl. No.	Name of Vegetable	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Korea	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Cauliflower	1023	348	180	696	618	1210	1245	1420	902	345	340	2437	1045	105	25	1236	450	690	1102	685	200	1125	1430	480	650	158	15	[illegible]
2	Cabbage	1276	290	120	164	590	3193	1408	1470	202	301	672	2299	528	112	25	1229	400	665	1138	935	295	1045	912	480	550	137	40	[illegible]
3	Knol Khol	243	330	0	53	228	1300	234	795	230	111	37	210	329	17	0	146	60	230	317	205	0	0	0	0	0	0	0	[illegible]
4	Brinjal	3596	1149	170	1440	1295	4175	1334	1455	1030	1310	840	5300	1604	221	80	1894	550	1377	1218	1320	290	1395	538	1124	670	277	90	[illegible]
5	Tomato	4292	463	130	2216	1982	9500	2997	3658	2270	1365	840	4155	1652	447	300	2981	2000	2232	909	3600	3100	2205	972	1810	1320	283	116	[illegible]
6	Bhindi	2942	88	100	1405	1233	2206	902	1350	1225	750	862	2704	1320	351	140	2119	550	1170	1287	1360	325	1540	801	988	1190	246	85	[illegible]
7	Potato	3428	585	170	915	589	940	325	900	2032	223	210	1587	877	138	15	2799	1400	997	1614	3365	3450	6580	2231	4030	2250	169	0	[illegible]
8	Cowpea	406	364	70	0	33	1733	327	1025	315	125	194	320	244	65	16	3874	1120	232	1526	560	260	0	114	0	490	0	0	[illegible]
9	Green Pea	186	710	65	293	85	485	378	616	927	117	147	169	190	11	3	327	90	282	645	601	300	1463	486	0	340	0	0	[illegible]
10	Bitter Gaurd	870	46	90	983	710	1440	328	825	490	365	357	683	304	41	75	198	130	380	626	270	115	468	143	230	370	151	22	[illegible]
11	Beans	116	271	80	387	115	475	43	95	402	221	168	898	345	13	3	28	30	338	370	375	42	568	284	430	230	0	0	[illegible]
12	Cluster Beans	118	69	31	132	50	935	222	575	160	201	94	113	182	0	0	133	35	338	611	95	45	0	0	0	0	0	0	[illegible]
13	Kaddu	870	2450	160	701	125	490	50	85	130	185	336	171	454	73	15	144	90	982	57	175	50	493	32	360	140	82	0	[illegible]
14	Bottel Gaurd	754	394	170	914	432	1535	359	1020	776	253	242	890	730	107	30	385	100	228	1418	630	300	713	183	610	580	167	30	[illegible]
15	Drum Stick	46	136	50	211	28	31	17	15	56	126	32	104	289	22	0	48	35	158	783	139	56	0	0	0	0	0	0	[illegible]
16	Sponge Gaurd	46	426	60	87	30	30	8	35	32	131	33	9	272	18	0	47	20	122	527	213	52	0	11	0	400	0	0	[illegible]
17	Arbi	380	132	90	161	19	133	36	190	666	526	300	795	268	340	0	424	125	222	422	191	83	550	57	432	610	0	12	[illegible]
18	Radish	441	91	90	715	213	818	166	323	230	435	294	4446	718	159	40	225	135	283	788	292	77	306	286	0	300	102	40	[illegible]
19	Carrot	8	173	40	214	12	318	70	182	41	267	0	1	103	2	0	111	45	128	300	28	11	44	57	0	0	0	0	[illegible]
20	Leafy Veg	278	96	90	298	180	1315	387	615	880	295	305	381	350	89	18	697	180	450	341	730	300	100	172	30	0	0	11	[illegible]
21	Kundru/Perwal	209	56	25	0	25	395	76	190	42	0	38	385	223	35	0	23	13	118	154	171	20	0	143	0	400	0	0	[illegible]
22	Sweet Potato	99	127	35	218	140	160	38	100	30	110	74	688	229	7	0	249	76	35	183	141	125	370	57	109	0	48	0	[illegible]
23	Jimikand	87	0	90	107	33	145	30	125	232	151	100	81	495	12	0	76	50	42	216	19	0	250	0	0	325	0	0	[illegible]
24	Onion	1695	222	250	1398	760	1725	308	700	849	1012	824	2064	1826	159	90	418	594	845	587	1680	425	1150	1467	1320	530	285	215	[illegible]
25	Other	2900	847	0	914	3400	2065	429	975	17	480	370	3174	782	362	35	44063	8206	890	2713	2050	263	2950	14797	0	3700	343	135	[illegible]
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Director Horticulture
C.G. Raipur

PRODUCTION UNDER VEGETABLE CROPS YEAR 2016-17

(In Metric Ton)

Sl. No.	Name of Vegetable	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Cauliflower	30226	9086	270	8689	8143	66375	25410	28400	33582	9810	9770	90573	16827	1988	625	17981	14000	15382	19439	11567	4368	18080	21629	7780	11440	2340	140	[illegible]
2	Cabbage	34033	4367	230	4910	7906	64480	31254	29630	3232	5418	12231	30784	12121	2079	625	17467	18667	14982	24843	16575	5118	15675	16521	9858	10000	2740	404	[illegible]
3	Knol Khol	7990	9233	5	636	4858	16123	3989	4000	2780	1098	408	3396	3669	202	5	1068	1710	790	8056	2417	0	0	0	0	0	0	0	[illegible]
4	Brinjal	64421	22831	2828	28564	19556	110290	34304	36371	29950	27000	13992	77181	25103	4108	2800	21962	19405	37912	22253	23812	4800	23983	8446	10391	13350	3401	606	[illegible]
5	Tomato	76314	10454	1950	70843	13428	290000	53997	66230	29943	24570	11058	44832	19095	7590	4800	97588	64800	45540	14617	54249	80030	33823	31176	27521	24030	5415	1111	[illegible]
6	Bhindi	20201	1710	980	15328	10266	22640	5972	13000	13475	11290	6010	32817	13002	3688	2100	16387	13300	11460	17548	10370	3241	14469	12401	3406	12726	2400	705	[illegible]
7	Potato	63320	5965	2601	38471	4214	23598	4226	22590	23364	6591	4240	17519	00132	1967	300	89966	25424	16850	18097	53511	40799	80065	37121	84117	35323	3980	0	[illegible]
8	Cowpea	6260	7196	356	5	401	16783	8005	11310	2060	640	784	3293	1002	925	100	125132	11424	1299	8348	8408	3900	0	1375	0	6570	0	0	[illegible]
9	Green Pea	1798	11062	736	2051	1478	3665	3334	6715	41715	976	1632	2555	834	156	50	2994	1598	2580	4872	5618	2981	14620	5732	0	4876	0	0	[illegible]
10	Bitter Gaurd	1266	370	1005	12778	4040	12896	6313	8790	20060	3975	2064	4827	5141	483	1030	3629	1350	3780	8624	3127	1351	4685	5247	3123	4633	795	7	[illegible]
11	Beans	1017	2203	664	3483	553	4053	382	431	3117	2703	1126	5988	2880	114	50	233	430	6576	5871	4814	350	6600	2974	4135	3550	0	0	[illegible]
12	Cluster Beans	841	966	175	1057	831	6537	1001	4112	1120	4508	566	777	1338	0	0	732	295	2232	4001	381	452	0	0	0	0	0	0	[illegible]
13	Kaddu	10804	27122	1840	8113	985	33978	1265	2128	1725	2970	3697	1953	5093	979	320	1455	1530	11726	760	2284	381	5441	762	2756	3000	996	0	[illegible]
14	Bottel Gaurd	14236	4023	1169	35577	3682	39150	14003	27656	4548	5100	4623	16685	12207	1958	906	2907	2300	4286	23943	10709	5096	11403	2153	6961	9240	2073	292	[illegible]
15	Drum Stick	187	978	183	1266	295	387	109	99	252	1008	111	370	1010	344	0	291	280	693	7042	327	39	0	0	0	0	0	0	[illegible]
16	Sponge Gaurd	365	4000	300	783	124	243	44	265	224	1432	689	118	1828	80	0	394	300	1962	5023	1646	413	0	138	0	3520	0	0	[illegible]
17	Arbi	4743	3239	1215	2013	80	1985	668	1202	9324	10520	9582	11282	3946	7706	0	5066	3730	2097	6345	2613	1209	4783	827	5903	6738	0	15	[illegible]
18	Radish	10921	2200	2198	11639	2380	9992	2168	7080	10036	9090	7046	15082	11918	3399	800	5000	3240	4674	18534	7484	304	11088	4012	0	8750	1734	144	[illegible]
19	Carrot	0	1418	200	2354	96	3896	664	2225	492	2500	0	3	1133	28	0	1232	600	1472	3902	368	143	300	814	0	0	0	0	[illegible]
20	Leafy Veg.	2601	1249	702	2683	3802	20315	4220	9225	4148	2950	2152	2111	2311	933	380	4408	2108	4089	4182	6415	2640	395	2408	1762	0	0	13	[illegible]
21	Kundru/Perwal	2520	721	325	0	290	4415	906	2280	482	0	700	4620	2495	303	0	273	84	1313	2347	2992	228	0	2151	0	4046	0	0	[illegible]
22	Sweet Potato	1027	1300	150	2071	1552	1151	395	1000	270	1870	445	4083	1980	83	0	1879	604	270	3468	2800	1250	5671	901	1058	5	828	0	[illegible]
23	Jimikand	663	0	540	1234	180	2879	1049	2500	1276	2718	705	515	4902	601	0	430	800	265	1644	283	3	1259	0	0	2438	0	0	[illegible]
24	Onion	43832	888	10375	23764	11282	49125	15675	14000	13251	15140	10617	23704	53865	2545	000	6346	9700	15464	2530	26039	6753	17595	21835	20077	11375	8835	1948	[illegible]
25	Other	11532	13330	0	8894	13445	59730	5890	14623	102	4832	4664	17533	4685	3250	823	283440	90000	6762	30928	77906	2981	17515	203775	0	21820	4244	700	[illegible]
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Director Horticulture
C.G. Raipur

AREA UNDER SPICES CROPS YEAR 2016-17

(in Hectare)

Sl. No.	Name of Spices	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Zinger	164	122	100	169	140	412	191	230	350	35	494	780	185	20	2	1569	360	155	729	1706	130	1040	603	794	500	120	5	11595
2	Coriander	2869	192	270	1494	1070	648	414	955	450	700	373	3300	120	71	25	1619	847	495	611	2950	240	155	435	488	470	236	4	18864
3	Chilli	164	497	100	1617	1118	1760	476	1055	2349	3900	1218	2804	170	260	175	3195	900	1050	2477	4560	1700	2521	1889	0	1580	188	15	36410
4	Garlic	144	0	0	161	72	110	87	100	10	115	31	197	12	0	0	352	84	175	720	365	120	121	131	547	400	0	0	3995
5	Termeric	246	108	0	266	410	370	276	300	320	127	372	711	80	108	70	332	93	368	832	300	140	1067	593	1480	560	102	17	10542
6	Karayat	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	116	30	0	0	0	0	0	0	0	0	0	0	148
7	Methi	41	129	90	234	80	65	0	20	160	365	47	0	26	19	0	1136	257	210	738	10	12	0	0	0	180	0	0	3517
8	Ajwain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117	30	0	0	0	0	0	0	5	0	0	0	152
9	Other	292	41	0	1088	485	1810	257	300	17	165	294	924	100	18	20	1488	350	220	333	613	0	0	303	0	1790	254	209	11997
	Total	3613	1090	560	5609	3355	4980	1482	2960	3752	5307	3181	6878	593	696	292	10229	3245	2640	6532	10834	2317	4913	2945	3315	5480	900	244	96617

PRODUCTION OF SPICES CROPS YEAR 2016-17

(in Metric-Ton)

Sl. No.	Name of Spices	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Zinger	1903	6779	500	1943	1146	10958	4619	3755	4410	525	3986	6030	1322	338	42	13808	9996	3860	9902	18700	1200	12540	4771	8714	6640	1080	16	140641
2	Coriander	18162	752	1036	6723	5350	7866	4306	9552	1250	700	941	3834	236	345	30	664	1271	1411	3042	9655	955	1861	1960	1937	2340	118	13	87970
3	Chilli	3372	789	620	19404	8048	6215	1430	2865	13497	38000	12911	15028	1275	2538	1050	20229	8550	6378	16718	29143	10863	25240	10509	0	10824	1104	50	265627
4	Garlic	266	0	0	1531	370	293	219	250	50	460	365	790	54	0	0	1577	403	858	4185	1484	862	847	950	3897	2700	0	0	22078
5	Termeric	650	862	0	2790	3400	7450	4111	1350	3900	3906	4622	5098	600	1039	1000	2952	956	4129	6274	7956	1197	1067	6848	16130	3220	2266	211	94535
6	Karayat	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	170	42	0	0	0	0	0	0	0	0	0	0	215
7	Methi	117	259	223	1521	784	1512	0	60	240	3650	57	0	19	80	0	1902	331	305	5181	25	30	0	0	0	600	0	0	16882
8	Ajwain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	167	30	0	0	0	0	0	0	8	0	0	0	214
9	Other	310	166	5	5745	3062	4673	621	800	75	2122	3185	3571	460	87	40	5479	427	1088	1312	5558	0	0	2947	0	5220	1073	210	58771
	Total	23970	9600	2371	39346	22163	38914	15296	20635	23371	46860	23902	37576	4116	4822	2080	47068	23915	18021	46502	72389	14507	41860	27948	30672	37574	4641	500	653333

Director Horticulture
C.G. Raipur

AREA UNDER FLOWERS CROPS YEAR 2016-17

(in Hectare)

Sl. No.	Name of Flowers	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Marigold	133	36	36	390	100	140	74	75	35	35	105	634	22	139	11	318	230	193	457	152	23	90	202	450	143	0	33	6581
2	Rose	69	51	30	288	15	40	36	30	5	0	3	86	3	18	0	214	85	18	234	3	1	5	30	15	0	0	0	[illegible]
3	Tuberose	164	93	0	0	73	71	88	25	0	0	0	23	0	0	0	152	88	0	122	229	8	103	28	32	95	0	0	[illegible]
4	Crysanthimum	0	0	0	0	6	25	0	5	0	0	0	0	0	0	0	155	25	0	121	0	0	0	0	7	0	0	0	[illegible]
5	Gladiolus	134	82	7	0	31	85	6	50	50	0	26	103	0	21	0	220	200	0	109	214	8	65	56	300	135	0	0	[illegible]
6	Jasmin	21	0	0	0	10	0	0	0	0	0	0	0	0	0	0	4	1	0	0	5	0	0	0	0	0	0	0	[illegible]
7	Galardia	14	0	0	0	5	0	0	0	0	0	0	0	0	1	0	140	27	0	0	4	0	0	0	0	0	0	0	[illegible]
8	Other	214	100	0	440	86	265	46	20	0	13	32	133	15	37	4	250	25	255	412	26	6	33	139	35	30	0	10	[illegible]
	Total	[illegible]	382	[illegible]	1129	339	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	40	[illegible]	15	1290	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	393	0	[illegible]	[illegible]

PRODUCTION OF FLOWERS CROPS YEAR 2016-17

(in Metric-Ton)

Sl. No.	Name of Flowers	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Marigold	780	213	195	2365	477	1080	316	540	450	53	1060	3176	176	785	96	2004	2782	1098	4619	800	106	620	1989	3153	1136	0	210	[illegible]
2	Rose	100	84	30	958	26	78	94	40	5	0	3	84	5	16	0	618	860	22	320	9	2	0	300	80	0	0	0	[illegible]
3	Tuberose	813	184	0	0	187	341	366	120	0	0	0	32	0	0	0	407	223	0	380	900	30	908	66	270	425	0	0	[illegible]
4	Crysanthimum	0	0	0	0	22	315	0	15	0	0	0	0	0	0	0	186	75	0	128	0	0	0	0	0	0	0	0	[illegible]
5	Gladiolus	632	94	35	0	85	195	10	100	150	0	14	50	0	13	0	499	800	0	641	832	10	290	88	327	621	0	0	[illegible]
6	Jasmin	40	0	0	0	20	0	0	0	0	0	0	0	0	0	0	2	1	0	0	4	0	0	0	0	0	0	0	[illegible]
7	Galardia	88	0	0	0	12	0	0	0	0	0	0	0	0	4	0	680	189	0	0	0	0	0	0	0	0	0	0	[illegible]
8	Other	170	171	0	1449	183	365	67	32	0	30	549	245	18	55	44	278	100	1271	510	23	6	110	635	122	294	0	10	[illegible]
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	867	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	230	56215

Director Horticulture
C.G. Raipur

AREA UNDER MEDICINAL & AROMATICS CROPS YEAR 2016-17

(in Hectare)

Sl. No.	Name of Med. & Aromatic	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koriya	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Leman Grass	41	0	12	0	28	0	24	0	0	0	117	43	0	0	0	320	77	0	233	75	0	0	73	22	300	0	0	1650
2	Khush	0	0	10	0	0	0	0	0	0	0	0	1	0	0	0	179	52	0	133	202	0	0	0	4	260	0	0	865
3	Aloevera	12	0	10	0	40	0	27	21	5	0	5	16	0	0	0	119	30	0	14	0	0	0	0	0	0	0	0	302
4	Safed Musli	0	0	6	0	0	0	0	0	0	0	5	26	0	0	0	92	21	0	34	0	0	0	0	0	0	0	0	274
5	Bach	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	100	25	0	17	0	0	0	0	0	0	0	0	143
6	Serpa Gandha	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	10	0	0	0	0	0	0	0	0	29
7	E-Citridora	0	0	6	0	0	0	60	0	5	0	210	5	0	0	0	323	71	0	515	205	0	0	0	265	435	0	0	2100
8	Ashwagandha	6	0	6	0	0	0	0	0	0	0	5	0	0	0	0	95	26	0	28	0	0	0	0	0	0	0	0	165
9	Patchauli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
10	Sanay	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	38	0	0	0	0	0	0	0	0	45
11	Pam.+Jam rosa	51	0	0	0	0	0	0	0	0	0	53	9	0	0	0	434	108	0	130	238	0	0	0	10	0	0	0	1053
12	Other	12	0	8	0	30	0	0	0	5	0	0	102	10	0	0	673	155	0	750	90	10	0	0	30	35	0	8	2019
	Total	133	0	58	0	98	0	120	21	12	0	502	215	10	0	0	2389	565	0	1992	903	10	0	73	329	1080	0	8	8543

PRODUCTION OF MEDICINAL & AROMATICS CROPS YEAR 2016-17

(In Metric-Ton)

Sl. No.	Name of Med. & Aromatic	Raipur	Balodabazar	Gariyaband	Mahasamund	Dhamtari	Durg	Balod	Bemetara	Rajnandgaon	Kabirdham	Jagdalpur	Kondagaon	Kanker	Dantewada	Sukma	Bilaspur	Mungeli	Janjgir	Korba	Raigarh	Jashpur	Surguja	Surajpur	Balrampur	Koria	Narayanpur	Bijapur	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Leman Grass	422	0	60	0	317	0	172	0	0	0	4750	235	0	0	0	3797	1029	0	6507	1020	0	0	275	1122	4130	0	0	22152
2	Khush	0	0	30	0	0	0	0	0	0	0	0	36	0	0	0	2332	716	0	1720	2960	0	0	0	320	2291	0	0	10348
3	Aloevera	134	0	20	0	175	0	134	168	40	0	0	273	0	0	0	1099	372	0	25	0	0	0	0	0	0	0	0	2440
4	Safed Musli	0	0	30	0	0	0	0	0	0	0	3	24	0	0	0	99	23	0	22	0	0	0	0	0	0	0	0	227
5	Bach	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	372	100	0	26	0	0	0	0	0	0	0	0	502
6	Serpa Gandha	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	543	0	0	71	0	0	0	0	0	0	0	0	635
7	E-Citridora	0	0	30	0	0	0	72	0	0	0	400	14	0	0	0	1580	173	0	2260	1168	0	0	0	760	3915	0	0	10377
8	Ashwagandha	12	0	30	0	0	0	0	0	0	0	0	6	0	0	0	88	40	0	31	0	0	0	0	0	0	0	0	207
9	Patchauli	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
10	Sanay	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	21	5	0	29	0	0	0	0	0	0	0	0	56
11	Pam.+Jam rosa	88	0	0	0	0	0	0	0	0	0	610	73	0	0	0	588	256	0	338	425	0	0	0	259	0	0	0	2730
12	Other	190	0	41	0	135	0	0	0	50	0	0	252	20	0	0	953	237	0	1836	181	10	0	0	6450	443	0	4	10692
	Total	1071	0	301	0	628	0	378	168	94	0	5763	931	20	0	0	11538	3108	0	10839	5774	10	0	275	8722	10875	0	4	60791

Director Horticulture
C.G. Raipur

क्र.		अनुमानित प्रति हे. लागत (रु.)	विशेष
नाम फसल – लौकी			
1.	नर्सरी प्रबंधन (पॉली बेग नर्सरी)	10000.00	
2.	खेत की तैयारी	3000.00	
3.	बीज लागत (4.5 किलो ग्राम)	1825.00	
4.	गोबर की खाद	2500.00	
5.	रासायनिक खाद (यूरिया–80, सिंगल सुपर फास्फेट 60, म्यूरेट ऑफ पोटाश 60 किग्रा)	1712.00	
6.	सिंचाई	2000.00	
7.	पौध संरक्षण	3000.00	
8.	खरपतवार नियंत्रण	0.00	
9.	श्रमिक खर्च	15000.00	
	योग	39037.00	
नाम फसल – मिर्च			
1.	नर्सरी प्रबंधन	3000.00	
2.	खेत की तैयारी	3000.00	
3.	बीज लागत (1 किलो ग्राम)	580.00	
4.	गोबर की खाद	2500.00	
5.	रासायनिक खाद (यूरिया–80, सिंगल सुपर फास्फेट 60, म्यूरेट ऑफ पोटाश 60 किग्रा)	1712.00	
6.	सिंचाई	2000.00	
7.	पौध संरक्षण	5000.00	
8.	खरपतवार नियंत्रण	2000.00	
9.	श्रमिक खर्च	22000.00	
	योग	42792.00	
नाम फसल – टमाटर			
1.	नर्सरी प्रबंधन	3000.00	
2.	खेत की तैयारी	3000.00	
3.	बीज लागत (500 ग्राम)	200.00	
4.	गोबर की खाद	5000.00	
5.	रासायनिक खाद (यूरिया–100, सिंगल सुपर फास्फेट 80, म्यूरेट ऑफ पोटाश 60 किग्रा)	1764.00	
6.	सिंचाई	3000.00	
7.	पौध संरक्षण	6000.00	
8.	खरपतवार नियंत्रण	2000.00	
9.	मल्चिंग	15000.00	
10.	श्रमिक खर्च	20000.00	
	योग –		

In 2016-17 - Approx 95,000 is cost of cultivation for tomato.

F:\NHM-DATA\Guideline\cost of cultivation.xls