

Food Processing Industry in Chhattisgarh

Chhattisgarh, situated in central India, is the 10th largest state by area and is one of the most mineral rich states of the country. Since inception it has worked towards attracting investment into the state and has seen heavy investment in core sectors. The state government is now working to push other industries and reduce dependence on mineral based industries for growth.

A large number of small industrial units have come up in food processing industry in the past few years. For policy makers challenge lies in creating right set of policies that drive the industry forward. Numerous challenges in terms of putting in the right infrastructure for industries both in terms of land, roads, skilled labour being the prominent. The constraints in terms of disturbances by Naxals in the state and agriculture output are some of the real time considerations that need to be factored in before making any investment. Despite challenges it has remained amongst the fastest growing states in the country and has demonstrated leadership in adopting practices which have resulted in better policy implementation as compared to many states in India.

The state has introduced a number of policy initiatives in the past decade and results have been encouraging. However it is also time to reflect and understand what has been done and what areas must be covered for the next policy framework.

Chhattisgarh – A Background

Chhattisgarh was formed on 1st November 2000 to ensure better administration of the 27 districts that now comprise Chhattisgarh. The state with a population of 25 million has clocked double digit GDP growth (11%) in the last year making it one of the fastest growing states in India.

The per capita income stands at over Rs.37000 which is less than the national average of Rs. 46,492 (as in year 2010-11). See Exhibit 1 for a snapshot of the state. The creation of the state has benefitted the region in terms of development of better infrastructure and highlighted the issues faced by people in the region. What makes the state unique is the position of the state. It is bordered by 6 states namely Maharashtra, Jharkhand, Andhra Pradesh, Orissa, Madhya Pradesh and West Bengal. See Exhibit 2 for a map of the state. The state is known for its rich forest cover and forest produce and also its mineral wealth.

The People

Chhattisgarh is home to several tribal communities and only a small section of population lives in cities, prominent being Raipur, the capital, Bhilai, Durg, Bilaspur, Bastar, Raigarh and Korba. The literacy levels stand at 71%. The breakup for the same is in Exhibit 1. One highlight of Chhattisgarh is that it has a more than 1000 females per 1000 males in some rural belts.

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Over 30% of population is classified as Scheduled Tribes and are dependent on forest produce or marginal agriculture for their livelihood. Farming remains the primary occupation of the people of the state. Over 30 lakh families depend on agriculture.

The Business Community is small and characterized by the Baniya (Trader) Community which owns majority of business. A number of Marwari businessmen are behind some of the biggest industries of the state.

Education

The town of Bhilai was one of the first planned cities of the region post-independence and is home to several steel and other industrial units. The city has remained the educational hub for the region with a mix of schools which are counted as the best in the region to engineering and management colleges (mostly started in the last decade). The state has a National Law College, A National Institute of Technology, an All India Institute of Medical Sciences (AIIMS) and an Indian Institute of Management (all in Raipur, the capital city). An Agricultural University and Dairy Institute are also present in the state. Several governments sponsored ITIs have also come up to create semi-skilled labour in the state.

Roads and Other Infrastructure

The road network has benefitted with the creation of the state. The length of the road network roads now stands at 35000 kilometers. It has over 1800 km of National Highway network that connects the east and west parts of the country. The black top roads account for 20% of the total road network.

The State has a rail network of 1000 km. The city of Bilaspur is also an Indian Railway divisional headquarter.

Chhattisgarh is one of the few power surplus states in India with installed capacity of 1924.7 MW. Over 90% villages are now electrified.

The practical availability of surface water in Chhattisgarh for irrigation, drinking, industrial use etc. is about 41,720 Mcum. The ground water resources have an estimated potential of 13,678 Mcum. The present storage capacity is about 9,214 Mcum, and it is proposed to raise it to 16,200 by 2020. A plan to build 595 anicuts across various rivers of the state has also been prepared.

Climate and Geography

The state lies in the tropical belt and thus witnesses hot summers when temperatures can cross 40°C while in the winters it can drop to 5°C. Much of the rainfall happens during the months of monsoon which typically arrive in the month of July and last till September.

From the point of agriculture the state can be divided into 3 types

- a. Plateau which cover the Districts of Chhattisgarh and Beejapur and parts of Kanker. Refer Exhibit 2 for a map of Chhattisgarh.
- b. Northern Mountains covering Sarguza, Korea and Jashpur District.
- c. Plains which covers the remaining districts.

The river Mahanadi is the major source of irrigation.

Industries in Chhattisgarh

Chhattisgarh has been traditionally known for its steel, cement and rice mills. Districts like Durg-Bhilai, Raipur, Korba and Bilaspur have been traditional industrial centers. A number of small and medium enterprises are present in these areas and are around 1000 food processing units in Chhattisgarh. The majority are rice and paddy processing units in the past few years, units for tomato processing, bakery products, dairy products etc. The businesses are typically partnership firms and supply in Chhattisgarh.

See Exhibit 3 for an industrial map of Chhattisgarh.

Policy Initiatives by the Government

The policy initiatives of the government are for the following activities

- Interest subsidy
- Fixed Capital investment Subsidy
- Electricity Duty Exemption
- Exemption from Stamp Duty
- Exemption from Entry Tax
- Interest subsidy for technology up gradation
- Quality Certification Subsidy

The government has identified focus groups as entrepreneur, micro and small units, NRIs, women, tribals, SC/ST etc.

The government policy has been to encourage small and micro business units

CSIDC

CSIDC is a company that is created by Chhattisgarh Government under the Company's Act, 1956 and is responsible for the creation of Industrial infrastructure in the state.

Chhattisgarh State Industrial Development Corporation (CSIDC) has developed industrial growth centers - Urla and Siltara (Raipur), Borai (Durg), Sirgitti (Bilaspur) & Anjani (Pendra Road) and proposes to setup four large Industrial areas in Raipur, Bilaspur, Raigarh and Durg/Rajnandgaon.

Thrust sectors in Chhattisgarh's new industrial Policy include large, core-sector industries, which would typically develop their own satellite townships. The State encourages private sector investment in new industrial areas. A successful private industrial park has already come up in Raigarh.

A Food park has been proposed in Kawardha and a PPP model is being used to develop the park. It is expected to provide the required infrastructure for food processing industries at one place.

Agriculture

Chhattisgarh is also known as the rice bowl of central India. With 80% of the population (around 32,55,062 families) depending on it as the main source of income, the state is heavily engaged in agriculture. Chhattisgarh accounts for 137.9 lakh Ha. of land, which translates to 4.15 % of the total land mass of the country. 37% of the land (47.5 lakh Ha.) is under agriculture. The distribution of the land among the broad categories of crops is given in Exhibit 4.

Crops in India are traditionally classified as Rabi and Kharif depending on the season in which they are sown. Crops that are grown in Rainy season are called Kharif Crops and sowing typically begins in the first week of July with the arrival of monsoon. The Rabi Crop is grown after the monsoon withdraws and the harvest is obtained usually around spring. Major Kharif Crops include Rice, Millets, Maize, Pulses etc. These crops are water intensive and thus Kharif Season is suited for such crops. Rabi Crops include food grains like Wheat, Barley, Mustard etc.

Exhibit 5 shows the agricultural production statistics of the state of Chhattisgarh.

Government Support for Agriculture

Some of the steps taken to improve infrastructure in agriculture:

1. State Agriculture Training Academy established – aims at improving technical knowledge of farmers and agriculture officers.
2. Seed Certification Institute was set up in 2003.
3. Chhattisgarh State Seed and Agriculture Development Corporation inaugurated. It aims at providing high quality, inexpensive seeds to farmers with ease.
4. The first fertilizer quality control lab, the first pesticide testing lab and the first agriculture machinery testing lab in Chhattisgarh have been established.
5. Four soil testing labs have been reinforced and four mobile soil testing labs are now working.
6. Several loan schemes have been initiated over the last decade to assist the farmers.

Exhibit 6 shows the agricultural loans disbursed and Exhibit 7 shows the budget provision for agriculture.

Some of the steps taken to promote automation in agriculture:

1. All agricultural machinery freed from state government taxes.
2. Farmers can avail the benefits of subsidies on the purchase of any agricultural machine from the seed corporation, agriculture university or licensed private firm of their choice.
3. Subsidies for agricultural machinery increased from Rs. 1.11 Cr. in 2001-02 to Rs. 28.71 Cr. in 2010-11.

The number of agricultural machinery distributed through subsidies is shown in Exhibit 8. The state now has one tractor per 225 Ha. of agricultural land.

The Directorate of Agriculture, Chhattisgarh and Indira Gandhi Agricultural University, Raipur together publish a weather forecast based agro-advisory services report every three days to help farmers in taking weather-dependent decisions.

Various self-help groups are now coming up with their local agricultural products in several pockets of the state with the help and support of Krishi Vigyan Kendras established throughout the state.

Horticulture

In view of its extremely rich and unique bio-cultural diversity, the government is providing support through various schemes to promote horticulture.

The following steps have been taken:

1. Setting up of a plug-type vegetable seedling production unit in Raipur, which provides seedlings produced from expensive hybrid seeds.
2. Four model floriculture centers have been established in the state.
3. Four cold-storages, 311 pack houses and 860 zero-energy cool chambers have been set up to minimize wastage after harvesting.
4. Model fruits' and vegetables' mandi have been set up in Bilaspur District to ensure that the farmers get adequate prices for their produce.
5. Bio-prospecting of new medicinal plants and bio partnerships in virgin forests are providing immense opportunities.
6. The expenditure on various schemes has increased to Rs. 73 Cr. in 2009-10 as compared to Rs. 4 Cr. in 2000-01.

Refer to Exhibit 9 for output and land distribution statistics in horticulture.

Aquaculture

Besides being self-sufficient in the area of fish seed supply, Chhattisgarh is also the fifth largest state in the country in this respect. It is also at the eighth position in inland fish production.

Exhibit 10 and 11 can be referred for fish production and productivity statistics in the state.

The major initiatives being taken to promote fisheries are:

1. 1,15,677 fishermen in inland fisheries have been granted accident insurances under the National Scheme on Welfare of Fishermen.
2. In 2010-11, fishermen were granted loans worth Rs. 596.6 lakhs and subsidies worth Rs. 121.71 lakhs. 105 new lakes were also built.
3. In 2010-11, 15,760 fishermen were granted financial assistance of Rs. 2,068.88 lakhs.
4. College of Fisheries has been established in Kabirdham.

The details regarding loans and subsidies in aquaculture can be seen in Exhibit 12.

Animal Husbandry

Chhattisgarh stands third in the country in livestock resources. As per the 2007 census, the state is having 29.65 lakh breed-able cows and 3.81 lakh breed-able buffaloes. The goat population is 27.60 Lakh, sheep – 1.40 lakh and pigs – 4.12 lakh. Poultry population consists of desi birds – 51.60 lakh and improved birds – 30.21 lakh. There is a positive growth in livestock population except in case of pigs and desi birds. The growth is significant in case of improved poultry (212 per cent) and cross bred (62 per cent) over 2003 census.

The government has spent Rs. 72.28 Cr. since 2008-09 to develop livestock infrastructure in the following manner:

veterinary clinic (Rs. 25 lakhs each) - 124

veterinary dispensaries (Rs. 5 lakhs each) - 342

district clinics upgraded to polyclinics - 17

quarantine stations - 11

state level referral clinic - 1

Consolidation and reinforcements of various animal farms (Rs. 398.78 lakhs) – 8

To strengthen the human resources, 200 veterinary assistants have been trained on latest techniques and the induction process of 128 newly stationed veterinary assistants has been completed. Two training centers have been reinforced with an expense of Rs. 1.71 Cr. Focus areas are disease control and breed enhancement.

Refer to Exhibit 13 for production statistics of livestock products.

Forests

About 45% of its land area is under forests. It also includes three national parks and 11 wildlife sanctuaries. Refer to Exhibit 14 for various types of forests in Chhattisgarh and their respective areas.

Around one-third of the forest comprises of Sal, which provides livelihood to a large number of people, especially the tribals. Timber contributes about 40 percent of the total forest revenue. Nearly 10,000 industrial units depend on forests for their raw material requirements.

These forests are home to over 200 species of medicinal, aromatic or dye plants. Other minor forest produce are lac, oil seeds, tamarind, sal seed, neem seed, palash flower, bel fruit etc.

It is estimated that the potential revenues from these forests could be around Rs. 500 Cr.

Irrigation

Lack of irrigation facilities is one of the factors that have been impeding the growth of agriculture in Chhattisgarh. The total irrigated land area at the time of inception of the state (2000-01) was around 21%. In 2010-11, this number has grown to 28%.

Some of the measures being taken up by the state government to encourage irrigation are:

1. 90% subsidies to marginal farmers and 50% to other farmers for installing sprinkler or drip irrigation system. Sprinkler systems cover 72145 Ha. of area, which is growing.
2. Subsidies of Rs. 40,000 to Rs. 50,000 to install tube-wells.
3. 50% and 75% subsidies to marginal farmers for digging of wells and installation of pumps (upto 5 HP) respectively.
4. Since 2001, 1,70,160 Ha. of land has been brought under irrigation by setting up wells, tube-wells and pumps.

Exhibit 15 shows the overall irrigation facilities developed from 2001 to 2010.

A Tale of Two Entrepreneurs

BAPS Kalories (name changed)

BAPS is a regional dairy products player and sells ice-cream in the 300km radius of the state. The unit was started by 4 partners who were pass outs of the regional dairy college and had worked with Dairy Majors. With the inception of the state in 2000, the founders decided to start a business by contributing funds from personal corpus.

The company has used innovation by overcoming challenges like transporting ice cream over large distances as cooling vans may not be available by using insulated tanks used to store water.

By adapting to local conditions the firm now covers 700 outlets in the state where its product is available. The firm is now expanding its operations by opening a new processing plant in ()

Mr Karamdhikary, one of the four founding partners, tackles marketing operations and explains that each partner handles one aspect of the business. The primary raw material milk is procured from state milk processing corporation whose capacity hasn't grown in line with their business which has seen a rise in sales by 15% (YoY) for some years now. The state milk processing sources milk from National Player Amul to meet supply demand of the state. He said his success has inspired many other people to foray into this business.

Speaking on challenges, he stressed, that Food Processing needs a zero pollution area which is difficult to find. Water, another important component, is often of sub -standard quality and thus has to be processed before further use. Quality certification was another pertinent issue and important for business. The development of road network and schemes from Central Government has helped him scale up the operations. He however rues the absence of any specific policy measures for small home grown business enterprises.

ABC Foods (name changed)

ABC Foods is a part of a state grown Business power house which has interests in several other businesses. The firm has a state of art plant in Bhilai which meets the stringent quality standards like HAACP.

ABC Foods has the capability and to process fruits like Tomato, Mango, Guava, Papaya, Tamarind, Amla etc. to the desired specifications of the customer requirement.

The have a plant at Kuthrel, Durg that uses latest technologies procured from Europe in areas like processing and packaging. The 150 MT per day capacity plant processes various tropical fruits, pulps and concentrates, viz. Mango, Papaya, Guava, Tamarind, Amla and Tomato paste for use by food product manufactures.

The products are sourced locally and are exported to Gulf Countries in the Middle East and are Halaal Certified.

Challenges Ahead

The state government is determined to make the state an industrial hub of the country and shed its “Shine-due-to-Mines” image. Numerous challenges abound policymakers that start right from availability of right quality of labour which would be needed in large numbers once Industrial activity picks pace. Coordination between various state agencies is also a challenge. A number of policy initiatives exist but are not always known to the target beneficiary. The challenges are not limited to just government. The entrepreneurs of the state are trying to ride the development wave however they are still rooted in traditional business practices limiting footprint to the state itself. The markets represent huge untapped potential both in the state as well as in the country as large.

To sum up, the state has two-fold challenges - first being to monitor the coverage of existing policies and take appropriate actions and at the same time make policies that are forward looking. The resources have to be divided between these two goals judiciously. The food processing units must address challenges posed by the rapidly changing environment. An understanding of strategic challenges that they face is needed to sustain the growth that the state has shown in these years.

Problem statement for Round 1

Prepare a power-point presentation (maximum 10 slides) addressing the following questions:

1. What must be the focus areas for food processing businesses in Chhattisgarh to reap the benefits of the immense growth potential of the state?
2. What should be the next step for the policy-makers of Chhattisgarh to promote food-processing industry in the state?

Exhibits

Established	November 1, 2000
Capital	Raipur
Number of Districts	27
Area	1,35,194 sq. km. (10 th in India)
Population	25,540,196 (2011 Census)
Population Density	189/sq. km. (India average: 382)
Literacy Rate	71.04%
Male	81.45%
Female	60.59%
Sex Ratio	991 female per 1000
Languages Spoken	Hindi, Chhattisgarhi
Road Length	34,930 km.
Rail Length	1,108 km.
Climate	Tropical, with hot summers and cool winters

Exhibit 1: Chhattisgarh- A Snapshot

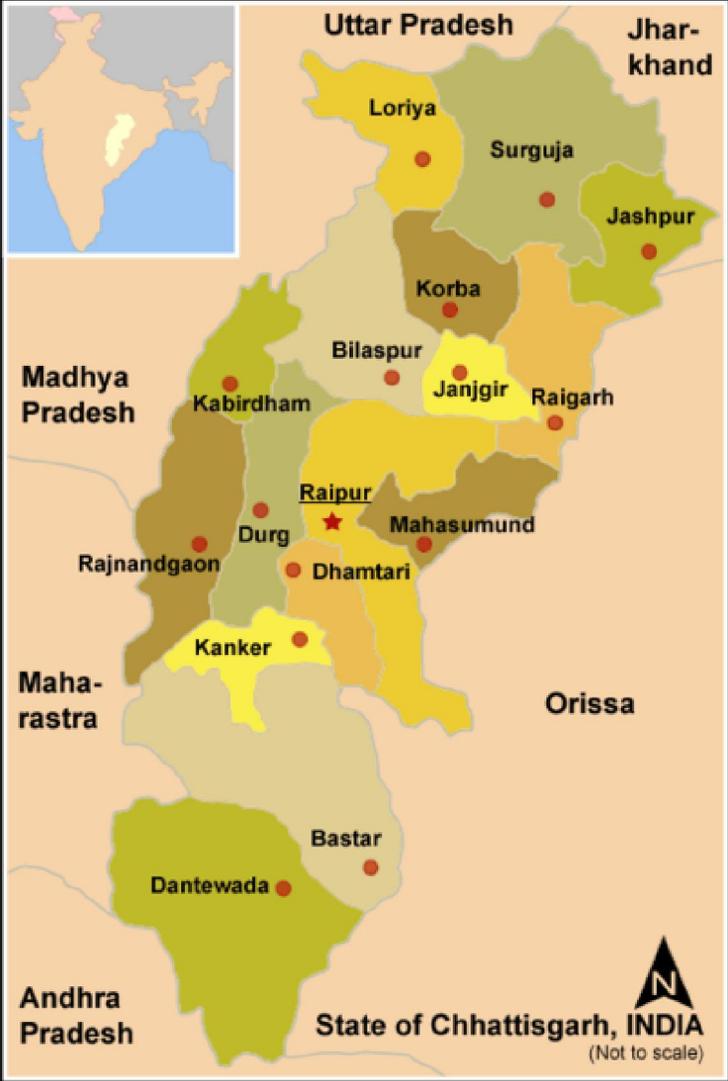


Exhibit 2: Chhattisgarh Map

Industrial Infrastructure in Chhattisgarh

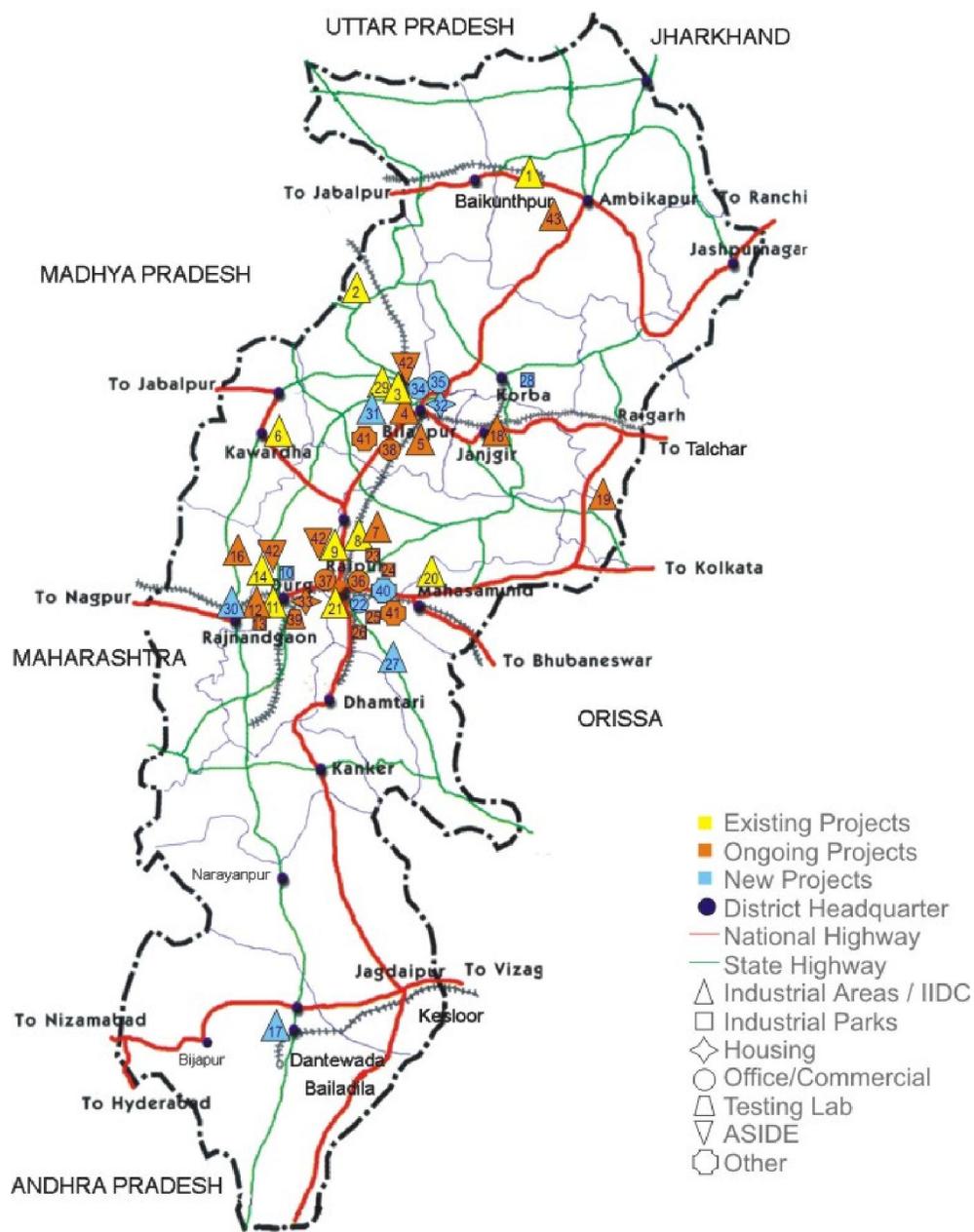


Exhibit 3 (Image Courtesy: CSIDC)

Crop	Food grains	Pulses	Oil seeds	Others	Total
Land (in lakh Ha.)	38.24	4.1	3.62	1.55	47.51
Percent of Agricultural Land	80.49	8.63	7.62	3.26	100.00

Exhibit 4: Distribution of Agricultural Land in Chhattisgarh

Year	Area (in1000 Ha.) / Output (in 1000MT)	Paddy (Rice)	Other Food Grains*	Total Food Grains	Pulses	Oil Seeds
2000-01	Area	3846.66	433.96	4280.62	603.07	341.89
	Output	3594.13	307.11	3901.24	317.51	155.96
2003-04	Area	3443.27	593.16	4036.43	1393.21	657.41
	Output	5859.38	459.03	6318.41	920.4	320.72
2009-10	Area	3610.59	441.77	4052.36	1268.82	618.33
	Output	5215.52	581.77	5797.29	821.56	423.73
2010-11	Output	6159	220	6379	690	180

* Other Food Grains refer to food grains other than paddy (eg. wheat, barley, maize, ragi etc.) and do not include pulses or oil seeds.

Exhibit 5: Agricultural Area and Output

Particulars	2000-01	2009-10	2010-11
Agriculture Loan Disbursed (Crore Rs.)	190.84	786.87	1107.88
Interest Rate (%)	13.15	3	3

Exhibit 6: Agriculture Loan

Particular	Amount (in lakh Rs.)			
	2000-01	2003-04	2009-10	2010-11 (target)
Center Sponsored Scheme	1545.9	2094.18	10103	9735.3
Central Regional Scheme	117.75	15	14093.35	12848.5
State Funded Scheme	1049.7	11179.66	15035.51	16461.88
Total	2713.35	13288.84	39231.86	39045.68

Exhibit 7: Budget Provision for Agriculture

Year	Tractor	Power Tiller	Reaper	Other Power Tools
2001-02	150	54	2	56
2010-11	739	1632	795	3534

Exhibit 8: Agricultural Machinery Distributed (in Nos.)

Crop	2001-02		2009-10		2010-11	
	Area (in Ha.)	Production (in MT)	Area (in Ha.)	Production (in MT)	Area (in Ha.)	Production (in MT)
Fruits	16426.00	12468.00	146705.65	1214552.66	166813.55	1409332.93
Vegetables	93255.00	299374.00	313115.02	3586531.76	334916.92	4149042.11
Spices	14661.00	361.00	64061.19	394813.50	77126.34	486592.88
Flowers	10.00	60.00	11182.56	64471.78	7130.40	26603.96
Medicinal & Aromatics	100.00	0.60	4087.82	13530.28	11538.64	84091.15
Total	124452.00	312263.60	539152.24	5273899.98	597525.85	6155663.03

Exhibit 9: Horticulture in Chhattisgarh: Area and Output

Year	2001-02	2006-07	2010-11	2011-12
Fish Production (in lakh MT)	0.959	1.377	2.282	2.4

Exhibit 10: Fish production in Chhattisgarh

Particulars	Fisheries' Productivity (KG/Ha/Yr.)	
	Chhattisgarh	India
Lakes	2650	2300
Irrigation Reservoirs	123	69

Exhibit 11: Fisheries' productivity: Chhattisgarh vs. India

Particulars	2001-02	2006-07	2010-11	2011-12
Loans (in lakh Rs.)	87	325	596.6	650
Subsidies (in lakh Rs.)	51	101	123.71	200

Exhibit 12: Government support for promotion of aquaculture

Particulars	2001-02	2009-10	% of national production (2009-10)	2010-11 (provisional)
Milk Production (in 1000 MT)	795	957	0.90%	1029
Egg Production (in lakhs)	7704	10529	1.70%	12446
Meat Production (in 1000 MT)	3.6	24.8	6.10%	27.22

Exhibit 13: Output of Major livestock products

Type of Forest	Area (sq. km)
Reserve	25,782
Protected	24,036
Unclassified	9,954
Total	59,772

Exhibit 14: Types of forests in Chhattisgarh

Lakes Built	Tube-wells installed	Pumps Distributed	Sprinklers Distributed	Drip Systems Installed
1,672	59,861	63,629	115,725	4,874

Exhibit 15: Irrigation in Chhattisgarh (2001-2010)