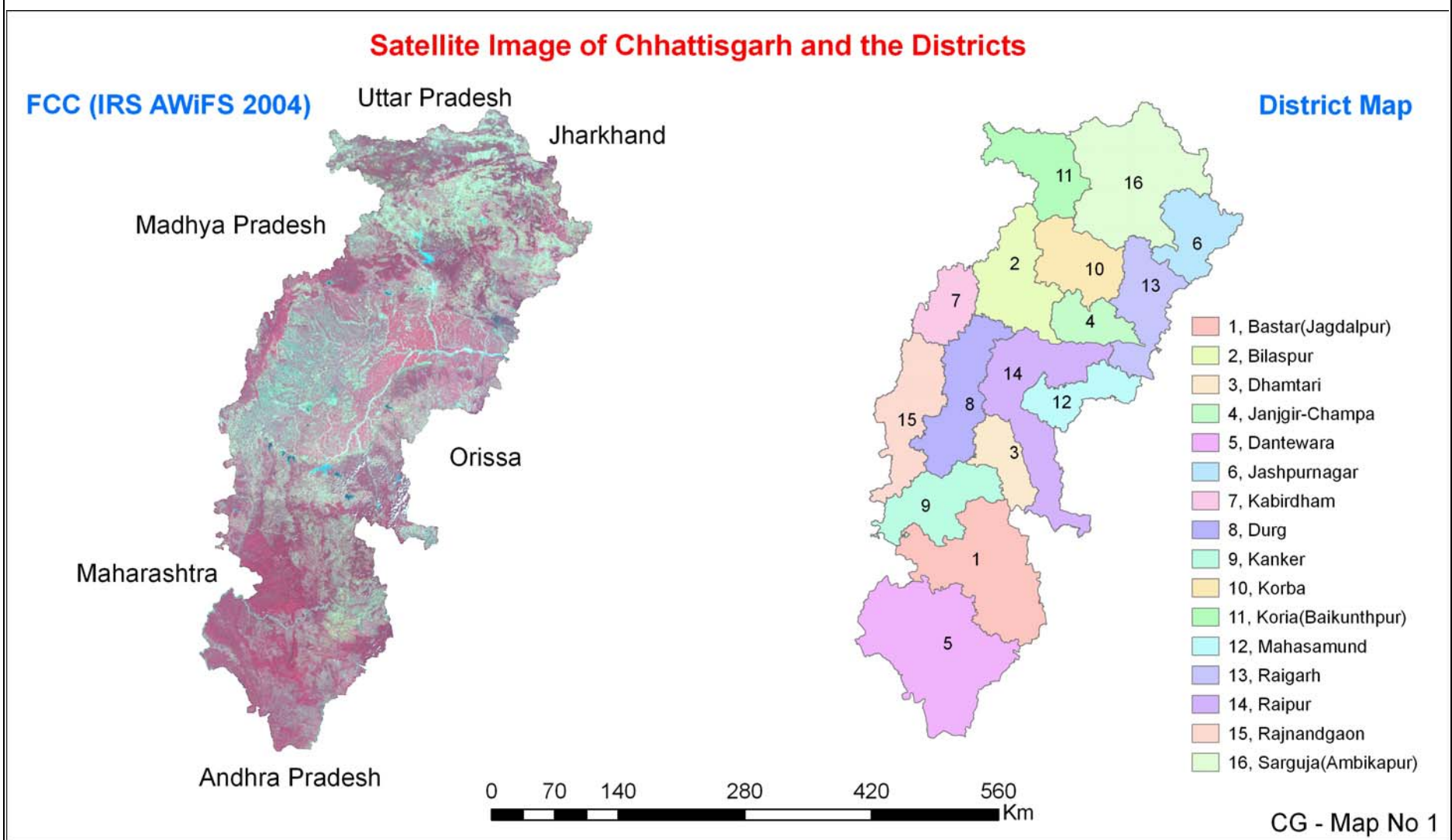
CHHATTISGARH

INTRODUCTION

Location and Administrative Setup: Chhattisgarh state situated in the Central part of India came into being on November 1, 2000. It is land-locked state with Uttar Pradesh in the North, Jharkhand in the North-East, Orissa in the South-East, Madhya Pradesh in the North-West, Maharashtra in South-West and Andhra Pradesh in the South. It is located between 17° 50' to 24° 08' N latitude and 80° 15' to 84° 13' E longitude covering an area of about 13519.100 Th ha (135191 sq. km). The state is divided into 3 revenue divisions with 16 districts (Map 1), 96 tehsils, 146 development blocks, 85 tribal development blocks and 20308 revenue villages. Total number of towns is 97. Raipur is the state capital.

Total population of Chhattisgarh according to 2001 census is 20795956 out of which 10452000 (50.26%)are male. The state has low population density of 154 persons/sq. km due to large forest reserve. The overall sex ratio is 990 i.e. 990 females per 1000 males. The state has population growth of 18.06% in the last decade (1991-2001). The state has total literacy rate of 65.12% with male literacy rate being 77.86%. Scheduled Caste population is 12.20% and Scheduled Tribe population is 32.40% of total population. State has total birth rate of 26.9 per 1000 of population.



Climate: Chhattisgarh state enjoys hot and humid monsoon climate. Physical features, location and distance from sea have deep influence on the climate of state. Temperature is high in summer and it is very cold in winter. Average temperature in winter is around 18^{0}C. Lowest temperature can be observed in the months of December and January. Average temperature in summer is around 30 - 32^{0}C. may is the hottest month with maximum temperature touching 45^{0}C. Average annual rainfall in the state is 1418 mm.

Land use: Land use statistics for the year 2003–'04 and 2004–'05 is given in Table 1.

Table 1: Major Land Use (Th ha)

PARTICULARS	2003-'04	2004-'05
Forest	6300.000	6300.000
Not Available for Cultivation		
A-Land put to Non Agriculture Uses	696.000	690.000
B-Barren and Uncultivable Land	343.000	349.000
Other Uncultivable Land Excluding Fallow Land		
A-Permanent Pastures & Grazing Land	848.000	860.000
B-Land under Misc. Tree Crops & Groves	0.765	0.765
C-Cultivable Wastelands	344.000	337.000
Fallow Land		
A-Current Fallow	248.000	250.000
B-Old Fallow	232.000	238.000
Cropped Area		
A-Net Area Sown	4779.000	4771.000
B-Area Sown More Then Once	928.000	945.000
Gross Cropped Area	5706.000	5716.000
Cropping Intensity (%)	120.00	120.00

(Source: www.indiastat.com)

Satellite Data: IRS 1D LISS III data of two different seasons namely, pre monsoon (April-May, 2004) and post monsoon (November-December, 2003) were used for delineation of waterlogged and salt affected areas of various commands of Chhattisgarh.

WATER RESOURCES AND COMMAND AREAS

Water Resources: Chhattisgarh is richly endowed with water resources, both the ground water resources and the surface water resources but there is a need to efficiently and effectively plan, develop and utilise these resources for overall benefit of the state. As per the annual report of Water Resources Department for the year 2005–'06, net sown area in the state is 4770.296 Th ha. Irrigation potential of the state is 4300 Th ha. Till the year 2005, actual irrigation potential created is 1626 Th ha which is 34.08% of the net sown area. The surface water of the rivers flowing within the state is estimated as 41719 Million cubic meter. Considering the reservation of 8700 Million cubic meter for usage of down stream states under various interstate agreements, and other practical considerations approximately 41700 Million cubic meter surface water can only be used. Present utilization (May 2006) is about 9200 Million cubic meter (22%).

Command Areas: There are 51 irrigation commands in Chhattisgarh. Number of major and medium irrigation commands are 9 and 42, respectively (Map No 2).

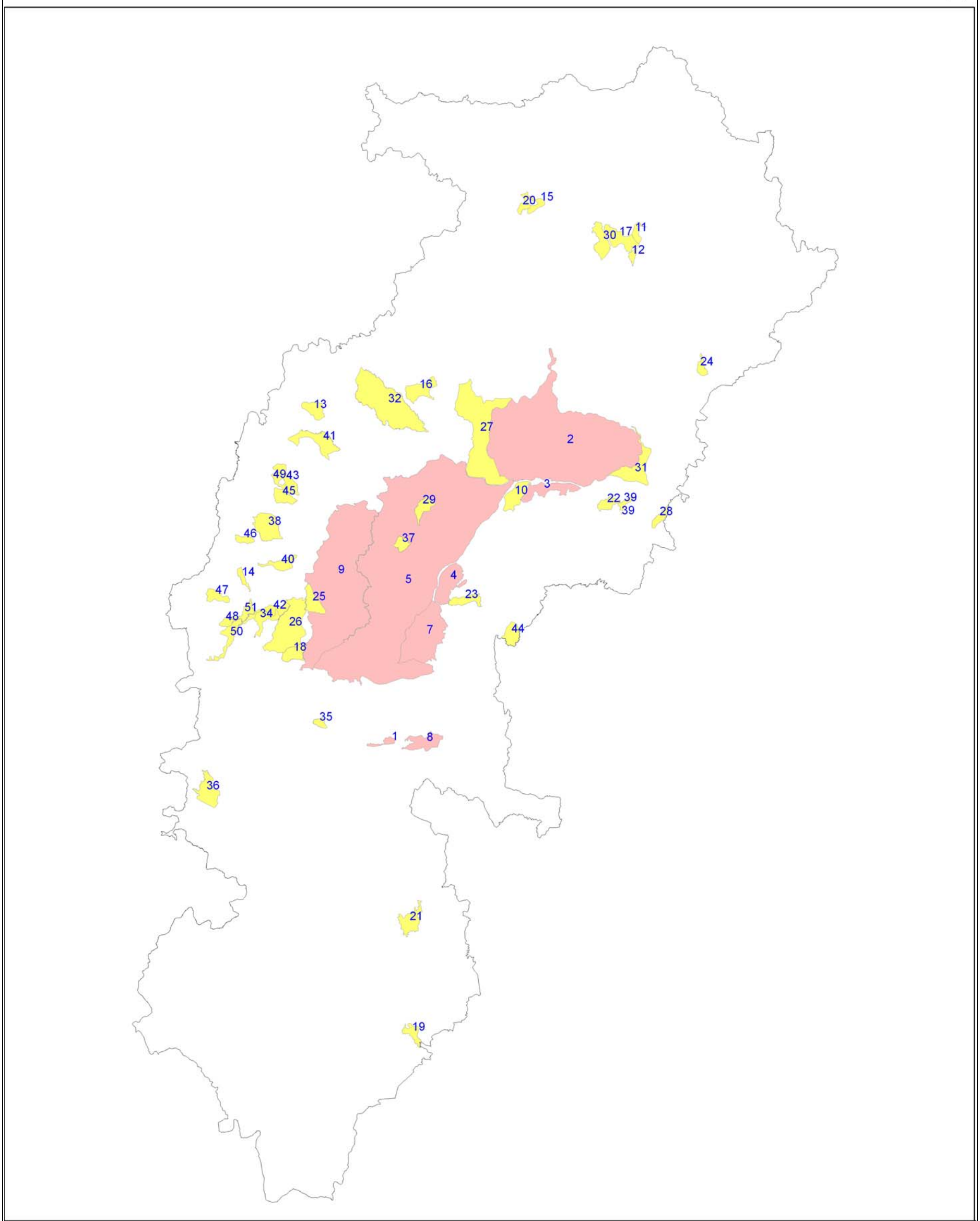
WATER LOGGING AND SALT AFFECTED AREAS IN MAJOR AND MEDIUM IRRIGATION COMMANDS BASED ON SATELLITE REMOTE SENSING

State has no area under waterlogging and salinity as per analysis of data of 2003–'04. Total 404 soil samples were collected to check the salinity / alkalinity in the command.

Table 2: Waterlogged and Salt Affected Area in major and medium irrigation commands of state

Code	Command name	Type	Waterlogged area (Th Ha)	Salt affected area (Th Ha)
1	Dudhawa	Major	0.000	0.000
3	Jonk Diversion	Major	0.000	0.000
4	Kodar	Major	0.000	0.000
5	Mahanadi reservoir complex	Major	0.000	0.000
2	Minimata Bango	Major	0.000	0.000
6	Moorumsilli	Major	0.000	0.000
7	Pairy (Sikasar)	Major	0.000	0.000
8	Sondur	Major	0.000	0.000
9	Tandula and Maroda	Major	0.000	0.000
10	Balar	Medium	0.000	0.000
11	Banki	Medium	0.000	0.000
12	Barnai	Medium	0.000	0.000
13	Chhirpani	Medium	0.000	0.000
14	Dhara	Medium	0.000	0.000
15	Gej	Medium	0.000	0.000
16	Ghongha	Medium	0.000	0.000
17	Ghunghutta	Medium	0.000	0.000
18	Gondli	Medium	0.000	0.000
19	Jhiram nadi	Medium	0.000	0.000
20	Jhumka	Medium	0.000	0.000
21	Kasarteda	Medium	0.000	0.000
22	Kedarnalla	Medium	0.000	0.000
23	Keshwa nalla	Medium	0.000	0.000
24	Khamhar Pakut	Medium	0.000	0.000
25	Khapri tank	Medium	0.000	0.000
26	Kharkhara Mohdipet	Medium	0.000	0.000
27	Kharung tank	Medium	0.000	0.000
28	Kinkari	Medium	0.000	0.000
29	Kumhari	Medium	0.000	0.000
30	Kunwarpur	Medium	0.000	0.000
31	Mand diversion	Medium	0.000	0.000
32	Maniyari tank	Medium	0.000	0.000
33	Maroda tank	Medium	0.000	0.000
34	Matiamoti	Medium	0.000	0.000
35	Mayana	Medium	0.000	0.000
36	Paralkot	Medium	0.000	0.000
37	Pindrawan	Medium	0.000	0.000
38	Piparianala	Medium	0.000	0.000
39	Putka	Medium	0.000	0.000
40	Ruse	Medium	0.000	0.000
41	Saroda	Medium	0.000	0.000
42	Shivnath diversion	Medium	0.000	0.000
43	Sutiapet	Medium	0.000	0.000
44	Upper Jonk	Medium	0.000	0.000
45	Surahi	Medium	0.000	0.000
46	Navagaon	Medium	0.000	0.000
47	Madiyan	Medium	0.000	0.000
48	Ghumaria	Medium	0.000	0.000
49	Karra nalla	Medium	0.000	0.000
50	Monga nalla	Medium	0.000	0.000
51	Sukha nalla	Medium	0.000	0.000
	TOTAL		**0.000**	**0.000**

Distribution of Major and Medium Irrigation Commands in Chhattisgarh



1 Major comamnd areas with code

10 Medium comamnd areas with code

0 20 40 80 120 160 Kms

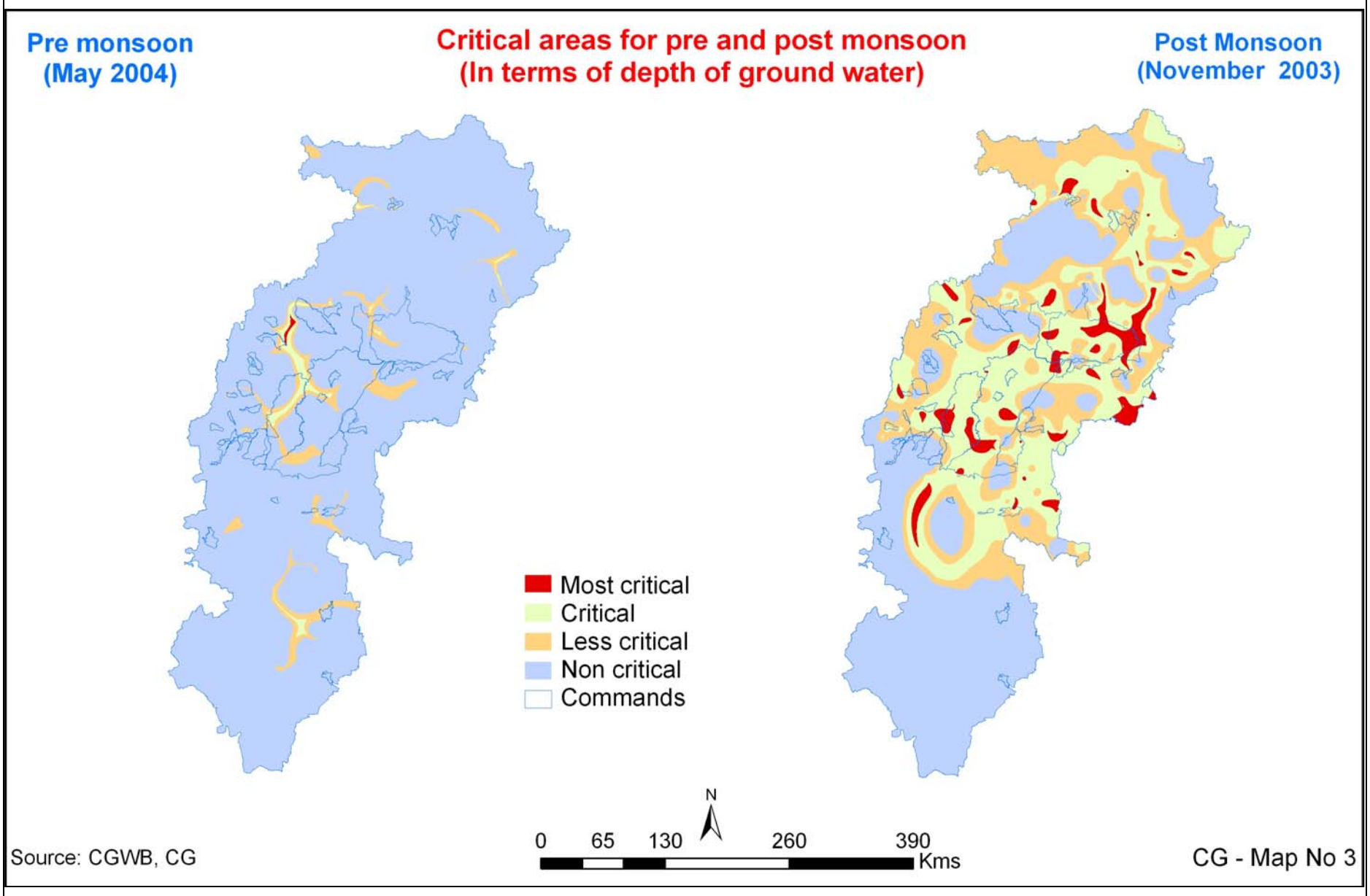
CG - Map No 2

Source: WRD, Chhattisgarh

For demarcation of critical waterlogged areas due to rise in water table depth, ground water table data of monitoring stations of CGWB were used. Table 3 and Map 3 show the critical area of depth of ground water for pre (May, 2004) and post (November, 2003) monsoon.

Table 3: Critical Area of Depth of Ground Water for Pre (May, 2004) and Post (November, 2003) Monsoon

	Most critical (< 1m)		Critical (1 – 2 m)		Less critical (2 – 3 m)		Non-critical (> 3 m)	
	(Th ha)	(%)	(Th ha)	(%)	(Th ha)	(%)	(Th ha)	(%)
Pre Monsoon (May, 2004)	0.145	0.01	57.017	2.84	217.738	10.83	1734.923	86.32
Post Monsoon (November, 2003)	228.089	11.35	1062.680	52.87	403.793	20.09	315.262	15.69



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