

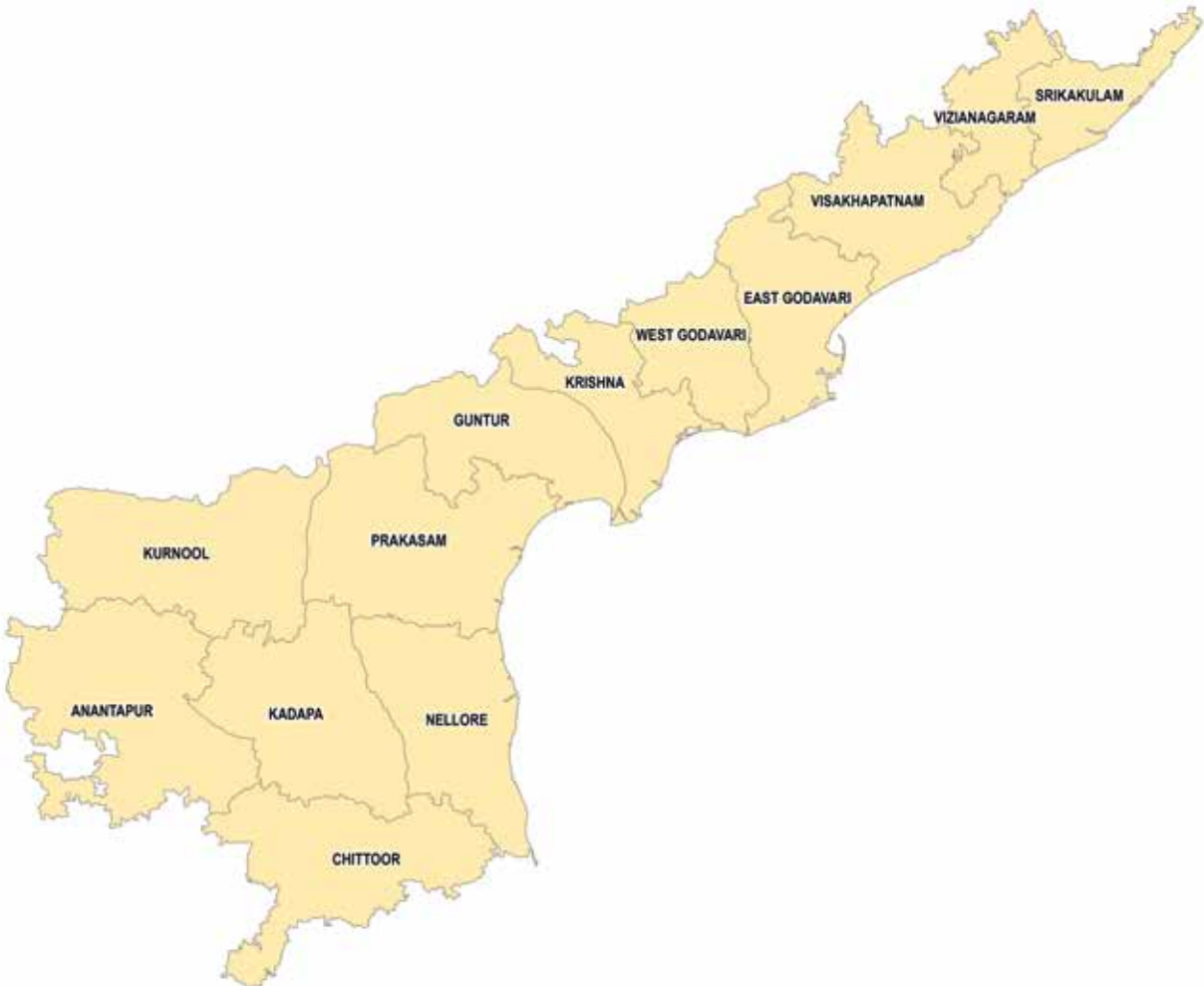
National Dairy
Development
Board

DAIRYING IN ANDHRA PRADESH

A STATISTICAL PROFILE 2018



District Map of Andhra Pradesh



FOREWORD

In this publication “Dairying in Andhra Pradesh - A Statistical Profile 2018”, the major highlights are: trend in human demographics, livestock population and production; inputs for enhancement of productivity such as breeding, health and nutrition. This publication includes statistical tables and thematic maps on selected parameters along with time series data of districts wherever available.

The objective of this publication is to provide a detailed presentation of various parameters, underlying factors and their inter-linkages so as to enable effective planning and implementation of various development interventions. We hope that a wide range of readers, students, researchers, veterinarians, planners, scientists, administrators, policy makers and professionals in government and non-governmental organisations, will find this publication useful. This publication aims at balancing the most comprehensive information with the most relevant.

We sincerely thank government and non-government agencies for providing information. While extreme care has been taken in putting together data in a systematic and comprehensible manner, some errors cannot be ruled out.

This publication “Dairying in Andhra Pradesh - A Statistical Profile 2018” is amongst a series of similar publications for different states being brought out by National Dairy Development Board (NDDB).

Dilip Rath

Chairman, NDDB

March 2018

Anand, Gujarat



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PART I : GENERAL STATISTICS

Andhra Pradesh is 8th largest State in the country with a geographical area of 162,970 sq km. It accounts for 4.10 per cent of the total population in the country. It has 2nd longest coastline in the country after Gujarat. Demographically, the sex ratio in the State has improved from 983 in 2001 to 996 in 2011 which is higher than all India estimate of 943 in 2011. The literacy rate has also improved from 62.07 per cent in 2001 to 67.35 per cent in 2011.

In 2016-17, the estimated GSDP at constant prices increased by 11.6 per cent as against the corresponding 7.1 per cent growth rate of GDP of India. Despite droughts, the agriculture exhibited 14.03 per cent sectoral growth rates of GVA surpassing both Industry (10.05 per cent) and Services sector (10.16 per cent). The Government is encouraging horticulture in a big way with a target to cover one million farmers in next three years and make Rayalaseema as a Horticulture hub. Fisheries has been identified as one of the growth engines both as employment generator and foreign exchange earner. The State ranks 1st in total fish and shrimp production.

Andhra Pradesh is the first state in India in bringing A.P. Single Window Clearances system under e-Biz project and ranked 1st in Ease of Doing Business Rankings given by the World Bank. It is the first State in the country to announce an exclusive state SEZ policy with special package of incentives and concessions. From 22.5 million units of power deficit in June 2014, the state has now become surplus power state providing 24x7 quality power supply to all domestic consumers.





I.1. Andhra Pradesh at a Glance

TABLE I.1.1: General Statistics: Andhra Pradesh vs. India

Particulars	Unit	Year	Andhra Pradesh	India
State Geography & Rural Infrastructure				
Geographical Area	'000 sq km	2011	163.0	3,287.3
Districts	Nos.	"	13	640
Villages	'000	"	17.3	640.9
Households	Million	"	12.7	249.5
Rural Households				
2001	'000	2001	8,061	137,414
2011	"	2011	8,997	168,565
Human Population				
Population	Millions	2011	49.4	1,210.1
Urban (% to total)	%	"	29.6	31.2
Rural (% to total)	"	"	70.4	68.8
Density of Population	Persons/ sq.km	"	303	382
Scheduled Castes (% to total)	%	"	17.1	16.6
Scheduled Tribes (% to total)	"	"	5.3	8.6
Sex ratio	Ratio	"	996	943
Literacy rate (excluding population of 0 to 6 age group)				
Male	%	2011	74.8	80.9
Female	%	"	60.0	64.6
Urban	%	"	79.2	84.1
Rural	%	"	62.7	67.8
Per capita NSDP (at current prices)	₹	2016-17	122,376	103,219
Livestock Population				
	Million	2012	29.2	512.0
Bovine Population	"	"	11.0	299.9
Indigenous Cattle	"	"	2.7	151.2
Crossbred Cattle	"	"	1.9	39.7
Buffalo	"	"	6.4	108.7
Small Ruminants	"	"	18.0	200.2
Livestock Population				
	Million	2007	31.0	529.7
Bovine Population	"	"	13.7	304.8
Indigenous Cattle	"	"	3.7	166.0



I.1. Andhra Pradesh at a Glance

TABLE I.1.1: General Statistics: Andhra Pradesh vs. India

Particulars	Unit	Year	Andhra Pradesh	India
Crossbred Cattle	"	"	1.7	33.1
Buffalo	"	"	8.2	105.3
Small Ruminants	"	"	17.0	212.1
Number of major native cattle breeds	Nos.	2016	2	41
Number of major native buffalo breeds	"	"	-	13
Milk Production				
Total Milk Production	'000MT	2016-17	12,178	165,404
Crossbred	"	"	2,957	43,779
Indigenous	"	"	909	34,320
Buffalo	"	"	8,308	81,266
Goats	"	"	3	5,752
Per capita milk availability	Grams/day	"	522	355
Egg Production	Millions	"	15,827	88,139
Meat Production	'000 MT	"	633	7,386
Wool Production	'000 Kg	"	792	43,544
Veterinary Infrastructure & Services				
Veterinary Institutes	Nos.	2016-17	3,173	65,241
Semen Production Center	"	"	3	60
AI Centers	"	"	6,011	100,368
AI Done	'000 Nos.	"	3,998	70,104
Agricultural Resources				
Forest Cover	%	2014-15	22.5	23.3
Pasture and Grazing Land	'000 Ha	"	214	10,258
Pasture & Grazing Land (% to total reporting area)	%	"	1.3	3.3
Area under fodder crops	'000 Ha	"	64	9,137
Gross Irrigated Area (% to Gross Cropped Area)	%	"	50.5	48.6
Cropping Intensity	"	"	123	142
Production of Major Crops				
Cereals	'000 MT	2015-16	9,340	235,218.1
Pulses	"	"	1,229	16,348.2
Oilseeds	"	"	873	25,250.8



I.1. Andhra Pradesh at a Glance

TABLE I.1.1: General Statistics: Andhra Pradesh vs. India

Particulars	Unit	Year	Andhra Pradesh	India
Cotton	'000 bales (170 kg Each)	"	1,888	30,005.0
Sugarcane	'000 MT	"	9,353	348,448.4
Ground Water Status (2013)				
Safe	% of mandals	2013	74	69
Semi Critical	"	"	8	10
Critical	"	"	3	4
Over Exploited	"	"	9	16
Salinity Affected	"	"	6	1

- SOURCE: i) Census 2001 & 2011, Office of the Registrar General and Census Commissioner, Govt. of India, New Delhi.
 ii) 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.
 iii) Basic Animal Husbandry and Fisheries Statistics, 2017, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture & Farmers Welfare, Govt. of India.
 iv) Dynamic Ground Water Resources of India as of 2011 and 2013, Central Ground Water Board, Ministry of Water Resources, River Development and Ganga Rejuvenation, Govt. of India.
 v) Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Govt. of India.
 vi) Ministry of Statistics and Programme Implementation, Govt. of India.





I.2. Social Statistics: Human Population

TABLE I.2.1: District-wise Human Population by Residence and Sex – 2001

Districts	Rural ('000)			Urban ('000)			Total ('000)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
ANDHRA PRADESH	17,284.5	16,982.1	34,266.6	5,523.5	5,432.7	10,956.2	22,808.0	22,414.8	45,222.7
Anantapur	1,391.9	1,329.0	2,720.9	467.7	451.9	919.6	1,859.6	1,780.9	3,640.5
Chittoor	1,478.1	1,456.8	2,934.8	411.6	399.4	811	1,889.7	1,856.2	3,745.9
East Godavari	1,885.1	1,864.4	3,749.5	574.5	577.4	1,151.9	2,459.6	2,441.8	4,901.4
Guntur	1,604.8	1,574.6	3,179.4	645.5	640.2	1,285.8	2,250.3	2,214.9	4,465.1
Kadapa	1,021.2	992.9	2,014.0	296.9	290.8	587.8	1,318.1	1,283.7	2,601.8
Krishna	1,439.1	1,405.3	2,844.4	678.3	665.2	1,343.4	2,117.4	2,070.4	4,187.8
Kurnool	1,380.6	1,331.4	2,712.0	415.6	401.9	817.5	1,796.2	1,733.3	3,529.5
Nellore	1,043.3	1,026.2	2,069.5	301.6	297.4	599	1,344.9	1,323.6	2,668.6
Prakasam	1,316.5	1,275.6	2,592.1	235.9	231.5	467.4	1,552.3	1,507.1	3,059.4
Srikakulam	1,121.4	1,137.5	2,258.9	138.6	140.1	278.7	1,260.0	1,277.6	2,537.6
Visakhapatnam	1,149.9	1,151.5	2,301.4	780.3	750.6	1,530.9	1,930.2	1,902.1	3,832.3
Vizianagaram	914.9	922.0	1,836.9	204.6	207.8	412.4	1,119.5	1,129.7	2,249.3
West Godavari	1,537.7	1,514.9	3,052.6	372.3	378.5	750.9	1,910.0	1,893.5	3,803.5

SOURCE: Census 2001, Office of the Registrar General and Census Commissioner, Govt. of India, New Delhi.





I.2. Social Statistics: Human Population

TABLE I.2.2: District-wise Human Population by Residence and Sex – 2011

Districts	Rural ('000)			Urban ('000)			Total ('000)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
ANDHRA PRADESH	17,445.8	17,330.4	34,776.4	7,292.3	7,318.2	14,610.4	24,738.1	24,648.8	49,386.9
Anantapur	1,489.2	1,446.3	2,935.4	575.3	570.4	1,145.7	2,064.5	2,016.7	4,081.1
Chittoor	1,474.1	1,468.6	2,942.7	616.2	615.2	1,231.4	2,090.2	2,083.9	4,174.1
East Godavari	1,922.3	1918	3,840.3	647.4	666.6	1314	2,569.7	2,584.6	5,154.3
Guntur	1,621.5	1,613.6	3,235.1	819.0	833.7	1,652.7	2,440.5	2,447.3	4,887.8
Kadapa	959.7	943.6	1,903.3	492.1	487	979.1	1,451.8	1,430.7	2,882.5
Krishna	1,343.5	1,330.2	2,673.7	923.8	919.8	1843.7	2,267.4	2,250.0	4,517.4
Kurnool	1,464.6	1,439.6	2,904.2	574.7	574.6	1,149.3	2,039.2	2,014.2	4,053.5
Nellore	1,060.8	1,045.1	2,105.9	432.2	425.5	857.6	1,493.0	1,470.6	2,963.6
Prakasam	1,382.6	1,350.2	2,732.9	332.1	332.5	664.6	1,714.8	1,682.7	3,397.4
Srikakulam	1,126.9	1,139.5	2,266.4	214.9	221.9	436.7	1,341.7	1,361.4	2,703.1
Visakhapatnam	1,113.2	1,141.4	2,254.7	1,025.7	1,010.2	2,035.9	2,138.9	2,151.7	4,290.6
Vizianagaram	920.4	933.1	1,853.6	241.0	249.9	490.9	1,161.5	1,183.0	2,344.5
West Godavari	1,567.0	1,561.2	3,128.2	397.9	410.9	808.8	1,964.9	1,972.0	3,937.0

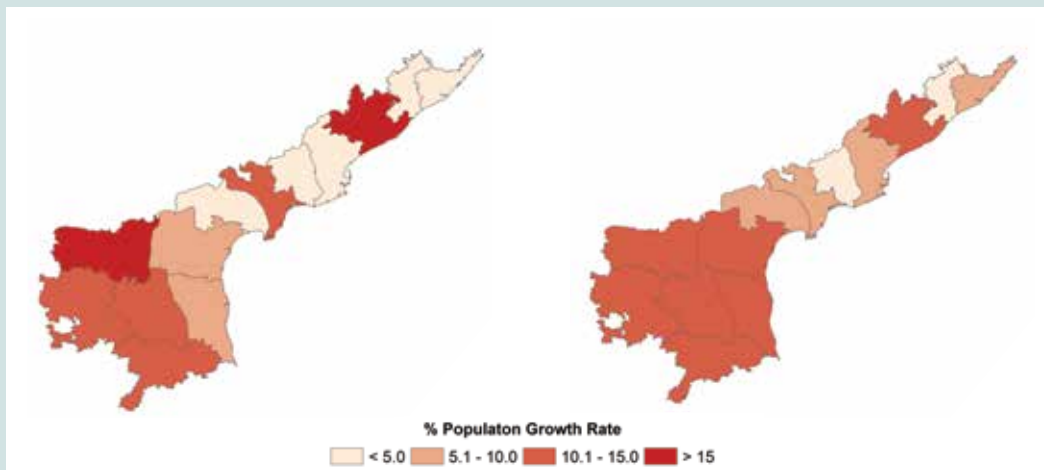
SOURCE: Census 2011, Office of the Registrar General and Census Commissioner, Govt. of India, New Delhi.



Decadal Growth Rate of Population

1991-2001

2001-2011



< 5.0

5.1 - 10.0

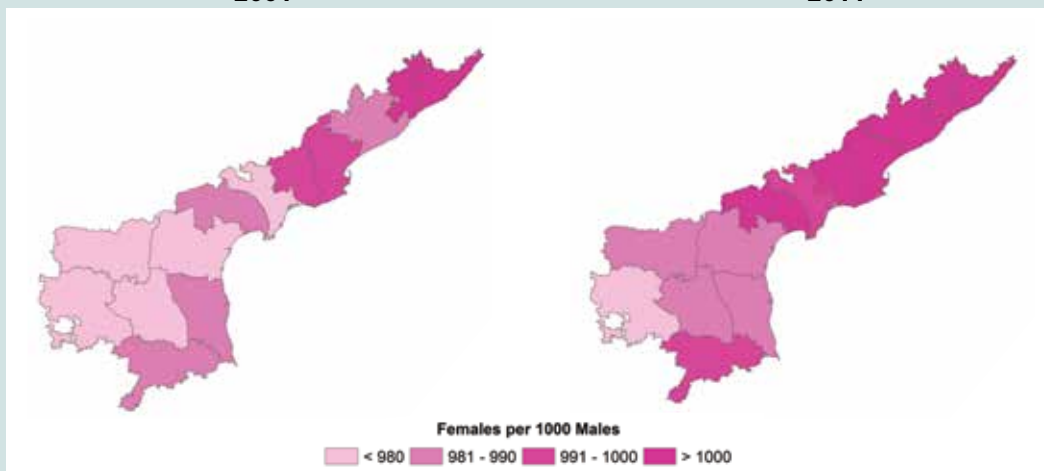
10.1 - 15.0

> 15

Sex Ratio (all age groups)

2001

2011



< 980

981 - 990

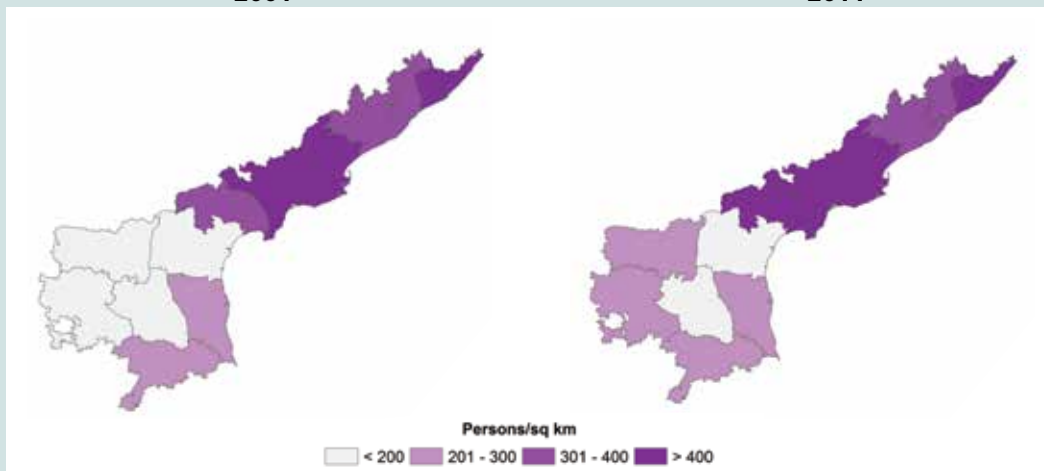
991 - 1000

> 1000

Population Density

2001

2011



< 200

201 - 300

301 - 400

> 400



I.2. Social Statistics: Human Population

TABLE I.2.3: District-wise Rural Households, Electricity and Tap Water Supply – 2001 and 2011

Districts	Rural Households ('000)		Rural Households with Electricity ('000)		Rural Households with Tap Water (inclusive – treated & untreated) ('000)	
	2001	2011	2001	2011	2001	2011
ANDHRA PRADESH	8,060.6	8,997.0	4,750.2	8,112.3	3,054.3	5,591.8
Anantapur	598.4	698.4	402.5	642.1	344.8	582.0
Chittoor	675.3	727.6	436.7	656.7	435.3	612.4
East Godavari	922.8	1063.0	518.0	962.1	279.4	619.2
Guntur	783.8	877.1	478.2	791.2	183.9	420.9
Kadapa	461.8	475.9	332.5	450.0	218.3	396.4
Krishna	699.6	754.4	475.1	701.9	292.2	496.2
Kurnool	546.1	630.8	342.7	578.5	266.5	461.9
Nellore	509.8	567.9	313.1	498.0	203.0	387.8
Prakasam	609.9	692.5	350.3	606.6	168.6	356.7
Srikakulam	533.0	580.0	216.4	510.3	41.3	121.6
Visakhapatnam	535.3	583.5	240.6	485.5	90.0	253.1
Vizianagaram	427.5	475.1	177.3	411.9	37.4	164.5
West Godavari	757.1	870.6	466.6	817.5	493.4	719.1

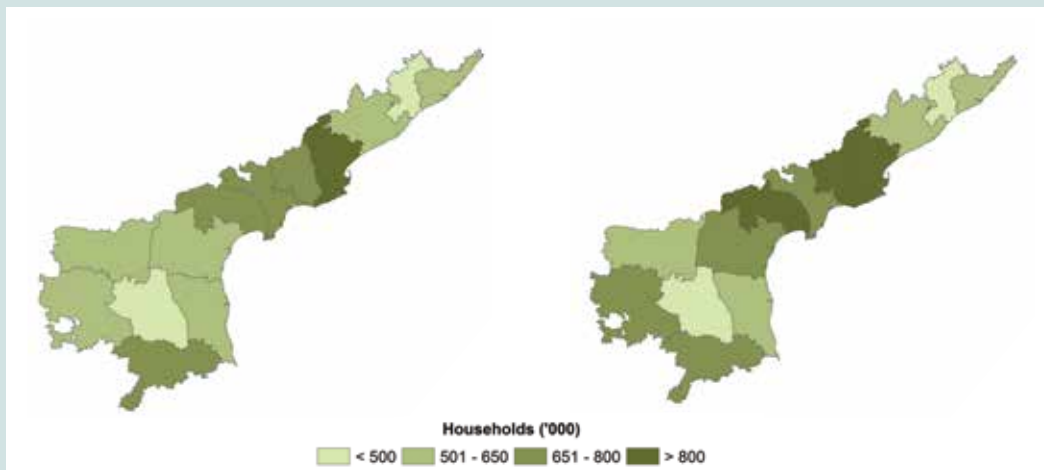
SOURCE: Census 2001 and 2011, Office of the Registrar General and Census Commissioner, Govt. of India, New Delhi.



Rural Households

2001

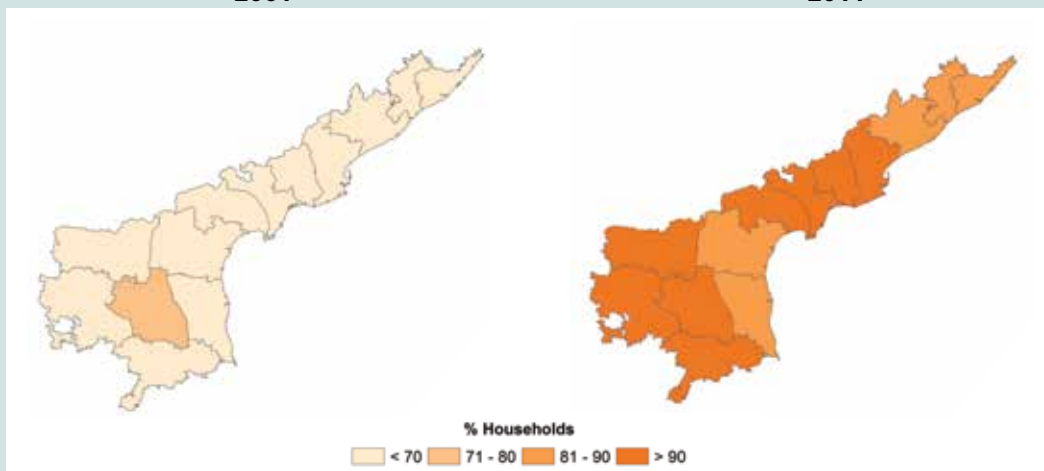
2011



Rural Households with Electricity

2001

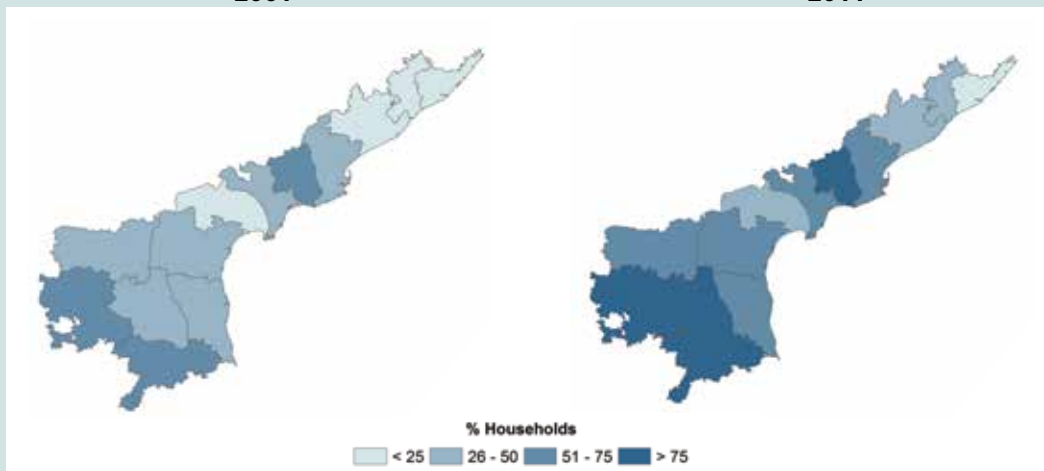
2011



Rural Households with Tap Water

2001

2011





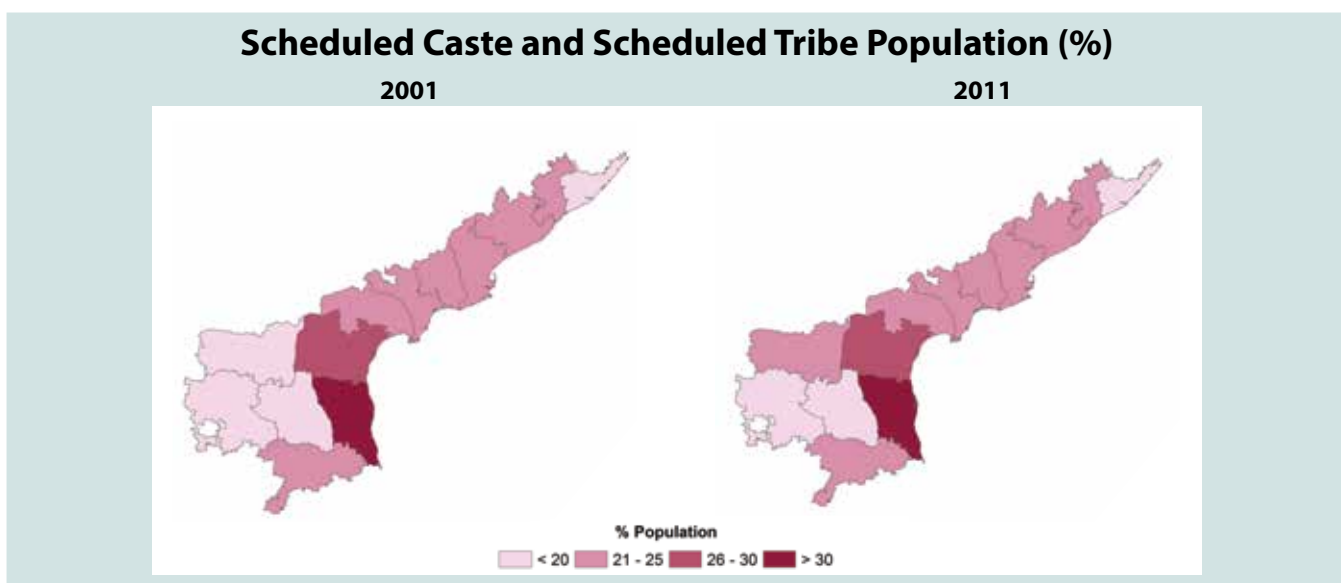
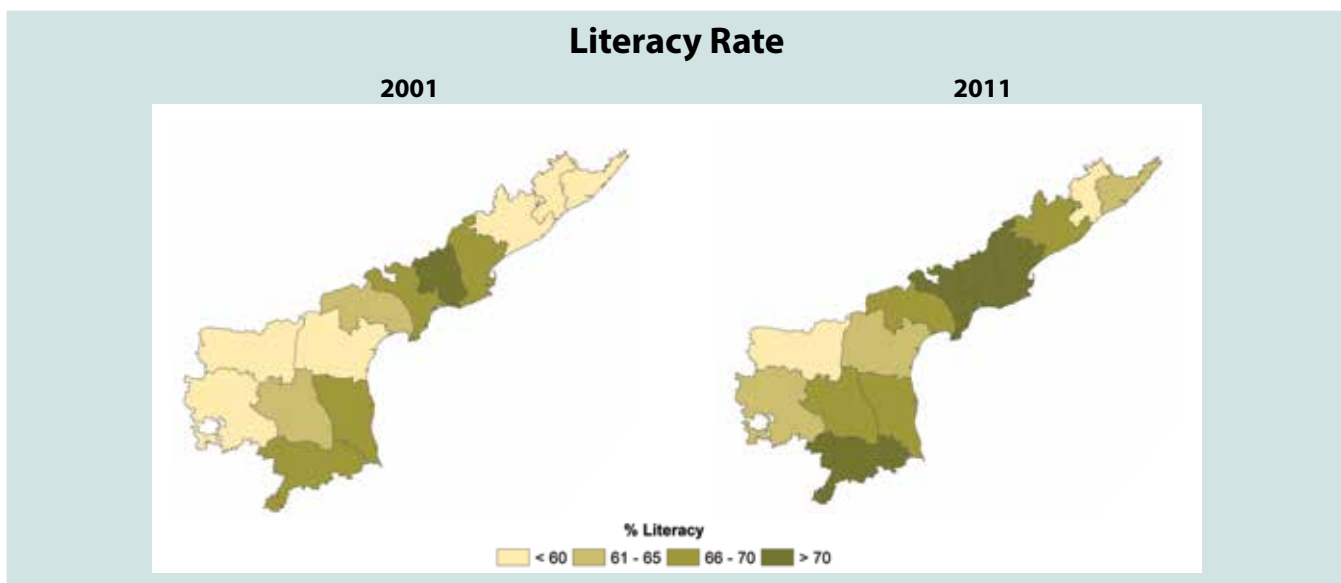
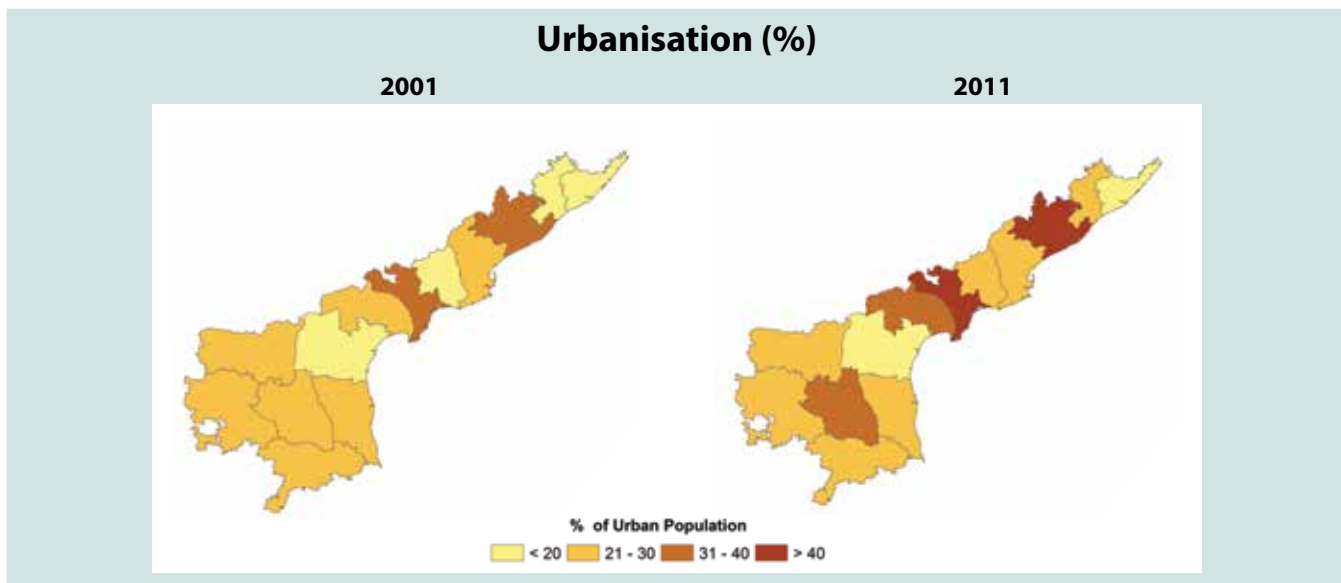
I.2. Social Statistics: Human Population

TABLE I.2.4: District-wise SC and ST Population – 2001 and 2011

Districts	SC Population ('000)		ST Population ('000)	
	2001	2011	2001	2011
ANDHRA PRADESH	7,428.3	8,445.5	2,274.5	2,631.2
Anantapur	514.9	583.1	127.2	154.1
Chittoor	702.3	785.8	128.1	159.2
East Godavari	881.7	945.3	191.6	213.2
Guntur	818.0	957.4	208.2	247.1
Kadapa	409.5	465.8	61.4	75.9
Krishna	746.8	871.1	107.6	132.5
Kurnool	628.6	737.9	69.6	82.8
Nellore	587.2	666.6	242.3	286
Prakasam	651.5	787.9	118.2	151.1
Srikakulam	229.6	255.7	151.2	166.1
Visakhapatnam	291.2	329.5	557.6	618.5
Vizianagaram	238.0	247.7	214.8	235.6
West Godavari	729.0	811.7	96.7	109.1

SC: Scheduled Caste, ST: Scheduled Tribe

SOURCE: Census 2001 and 2011, Office of the Registrar General and Census Commissioner, Govt. of India, New Delhi.





I.3. State Economy

TABLE I.3.1: Net State Domestic Product (NSDP) and Per Capita Income

Sector	At Current Prices (₹ crores)										
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
State Domestic Product	121,388	133,072	156,646	190,738	214,873	246,936	289,776	321,806	362,353	411,387	461,257
1. Agriculture	30,401	30,732	33,838	45,179	50,781	63,004	70,113	74,783	90,224	101,081	110,375
2. Forestry & Logging	1,980	2,189	2,305	2,478	2,619	2,702	3,316	4,052	4,241	4,563	5,332
3. Fishing	5,214	5,567	5,817	6,565	7,059	7,538	8,910	9,792	11,943	14,830	18,072
4. Agriculture & Allied (1+2+3)	37,595	38,488	41,959	54,222	60,458	73,245	82,339	88,628	106,408	120,474	133,778
As % of NSDP	31.0	28.9	26.8	28.4	28.1	29.7	28.4	27.5	29.4	29.3	29.0
A Sub-total of Primary	39,259	40,786	47,712	61,501	65,821	78,554	88,798	97,118	115,065	127,277	140,857
As % of NSDP	32.3	30.6	30.5	32.2	30.6	31.8	30.6	30.2	31.8	30.9	30.5
B Sub-total of Secondary	21,335	24,281	28,683	35,572	43,679	47,249	54,120	60,625	60,078	66,150	72,787
As % of NSDP	17.6	18.2	18.3	18.6	20.3	19.1	18.7	18.8	16.6	16.1	15.8
C Services	60,794	68,005	80,251	93,666	105,373	121,134	146,858	164,063	187,209	217,960	247,613
As % of NSDP	50.1	51.1	51.2	49.1	49.0	49.1	50.7	51.0	51.7	53.0	53.7
State Per Capita Income (₹)	25,959	28,223	32,961	39,780	44,376	50,515	58,733	64,773	72,301	81,397	90,517

Sector	At 2004-05 Prices (₹ crores)										
	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
State Domestic Product	121,388	128,150	141,610	159,270	163,341	174,401	186,041	191,554	198,688	213,129	228,450
1. Agriculture	30,401	29,303	30,052	36,169	35,364	38,188	36,347	36,390	38,511	40,734	41,473
2. Forestry & Logging	1,980	2,062	2,103	2,149	2,207	2,196	2,294	2,882	2,446	2,514	2,901
3. Fishing	5,214	5,469	5,682	6,563	6,654	6,580	7,645	8,679	10,203	11,902	13,963
4. Agriculture & Allied (1+2+3)	37,595	36,834	37,837	44,881	44,224	46,964	46,286	47,951	51,161	55,150	58,336
As % of NSDP	31.0	28.7	26.7	28.2	27.1	26.9	24.9	25.0	25.7	25.9	25.5
A Sub-total of Primary	39,259	38,781	42,373	49,565	47,190	49,850	49,742	51,385	54,497	57,864	61,056
As % of NSDP	32.3	30.3	29.9	31.1	28.9	28.6	26.7	26.8	27.4	27.1	26.7
B Sub-total of Secondary	21,335	22,946	24,691	27,777	29,993	30,760	30,653	31,921	30,282	31,103	32,934
As % of NSDP	17.6	17.9	17.4	17.4	18.4	17.6	16.5	16.7	15.2	14.6	14.4
C Services	60,794	66,423	74,546	81,928	86,158	93,791	105,646	108,249	113,908	124,163	134,461
As % of NSDP	50.1	51.8	52.6	51.4	52.7	53.8	56.8	56.5	57.3	58.3	58.9
State Per Capita Income (₹)	25,959	27,179	29,797	33,217	33,733	35,677	37,708	38,556	39,645	42,170	44,831

SOURCE: Ministry of Statistics and Programme Implementation, Govt. of India.





I.3. State Economy

TABLE I.3.2: Value of Output: Agriculture and Livestock

Item	At Current Prices			
	2011-12	2012-13	2013-14	2014-15
Value of Output (₹ Billion)				
Agriculture and Allied	1,059	1,256	1,449	1,676
Agriculture	546	645	744	841
Livestock	341	411	450	523
Milk	207	253	276	322
Meat	88	104	112	142
Egg	25	31	34	36
Dung	5	6	6	6
Others^	16	18	22	17
Share of Value of Output to Agriculture and Allied (%)				
Agriculture	51.5	51.3	51.4	50.2
Livestock	32.2	32.7	31.0	31.2
Share of Value of Output to Livestock Output (%)				
Milk	60.6	61.5	61.3	61.4
Meat	25.8	25.2	25.0	27.2
Egg	7.4	7.5	7.5	7.0
Dung	1.5	1.4	1.3	1.2
Others^	4.7	4.4	4.9	3.3

Item	At Constant Prices (2011-12)			
	2011-12	2012-13	2013-14	2014-15
Value of Output (₹ Billion)				
Agriculture and Allied	1,059	1,122	1,184	1,242
Agriculture	546	573	606	624
Livestock	341	359	364	380
Milk	207	217	223	237
Meat	88	93	93	98
Egg	25	27	26	27
Dung	5	5	5	5
Others^	16	17	16	13
Share of Value of Output to Agriculture and Allied (%)				
Agriculture	51.5	51.0	51.2	50.2
Livestock	32.2	32.0	30.8	30.6
Share of Value of Output to Livestock Output (%)				
Milk	60.6	60.5	61.2	62.3
Meat	25.8	26.0	25.6	25.8
Egg	7.4	7.4	7.2	7.1
Dung	1.5	1.4	1.4	1.4
Others^	4.7	4.7	4.5	3.4

^Includes Wool and Hair, Silkworm Cocoons & Honey, Increment in Stock.

SOURCE: Ministry of Statistics and Programme Implementation, Govt. of India.



PART II : LIVESTOCK CENSUS

Andhra Pradesh has bovine resource of 46.06 lakh Cattle and 64.33 lakh Buffaloes engaging 62.54 lakh (49.38 per cent) households in the state. It has world renowned breeds like Ongole and Punganur in Cattle and Godavari Buffaloes. Dairying has emerged as a subsidiary source of income generation. As per latest Livestock Census 2012, the population of indigenous cattle and buffalo has declined while crossbred cattle population has increased.

The three districts of Chittoor, Srikakulam and Anantapur together account for about half of the total cattle population of the State, while four districts of Guntur, Prakasam, Krishna and Nellore collectively contributing about 50 per cent of the total buffaloes in the State. As per Socio-economic survey 2016-17, the Government envisages to ensure that every household has a monthly income not less than ₹10,000 from livestock sector. In order to increase the income from dairying, the State Government has framed a "Fodder Security Policy".





II.1. Animal Population

TABLE II.1.1: Summary of Livestock Census (1997 to 2012) – Andhra Pradesh

Population	Livestock Census			
	1997	2003	2007	2012
Total Bovine	11,394,935	11,388,559	13,702,521	11,040,114
Total Cattle	5,092,714	4,507,256	5,472,784	4,606,350
Total Exotic/ Crossbred cows	667,403	980,932	1,746,556	1,938,871
Total Females	491,896	750,705	1,382,038	1,617,913
Under 1 year	122,330	151,903	322,723	371,181
1 to 2.5 year	77,937	113,900	205,631	235,162
In-milk	207,897	313,549	595,078	731,104
Dry	60,928	115,839	173,559	201,262
Milch	268,825	429,388	768,637	932,366
Not even calved once	18,861	49,921	67,745	69,822
Others	3,943	5,593	17,302	9,382
Total Males	175,507	230,227	364,518	320,958
Total Indigenous Cows	4,425,311	3,526,324	3,726,228	2,667,479
Total Females	1,958,144	1,648,852	1,831,287	1,414,274
Under 1 year	379,691	299,286	373,293	286,797
1 to 3 year	328,022	281,747	294,846	249,083
In-milk	705,382	613,836	683,016	514,812
Dry	413,314	335,141	325,232	260,802
Milch	1,118,696	948,977	1,008,248	775,614
Not even calved once	108,821	97,817	109,163	88,407
Others	22,914	21,025	45,737	14,373
Total Males	2,467,167	1,877,472	1,894,941	1,253,205
Total Buffalo	6,302,221	6,881,303	8,229,737	6,433,764
Total Females	5,482,722	5,929,050	7,022,192	5,657,126
Under 1 year	1,158,699	1,147,379	1,525,262	1,206,553
1 to 3 year	854,802	932,829	1,071,486	938,503
In-milk	2,354,057	2,508,969	2,916,926	2,276,276
Dry	844,986	933,543	1,012,637	833,354
Milch	3,199,043	3,442,512	3,929,563	3,109,630
Not even calved once	207,890	325,179	401,769	307,574
Others	62,288	81,151	94,112	94,866
Total Males	819,499	952,253	1,207,545	776,638

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.



II.1. Animal Population

TABLE II.1.2: District-wise Total Bovine Population

Districts	Indigenous Cattle ('000)				Crossbred Cattle ('000)				Buffalo ('000)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	4,425	3,526	3,726	2,667	667	981	1,747	1,939	6,302	6,881	8,230	6,434
Anantapur	644.9	650.3	720.4	455.6	25.5	45.1	97.4	161.7	316.1	410.6	533.2	371.1
Chittoor	467.9	352.3	355.8	195.7	389.0	483.2	748.6	731.2	144.1	141.4	139.8	84.4
East Godavari	308.9	204.3	201.1	144.3	27.1	43.5	91.6	127.4	498.4	514.6	685.1	623.6
Guntur	130.5	101.3	127.6	101.8	4.4	4.1	5.1	8.2	960.9	961.0	1,200.2	1,007.9
Kadapa	214.5	152.8	145.0	109.0	4.6	6.5	25.0	30.1	429.2	447.2	507.7	466.9
Krishna	151.6	93.6	93.5	69.4	7.9	8.7	10.9	10.0	767.6	849.2	919.5	696.1
Kurnool	545.0	424.9	514.5	401.1	2.9	4.4	3.2	7.5	415.0	458.9	646.6	412.8
Nellore	263.1	152.3	157.8	105.2	2.7	4.0	13.1	10.8	629.7	634.4	769.4	624.7
Prakasam	155.8	117.8	112.6	72.4	1.0	1.5	2.5	2.4	830.9	1,029.4	1,273.9	970.4
Srikakulam	507.2	487.1	430.7	362.2	130.0	207.6	378.6	427.8	163.9	156.8	125.4	126.3
Vishakhapatnam	410.3	328.3	425.1	355.5	29.6	56.5	153.9	149.4	274.5	483.8	479.8	306.3
Vizianagaram	422.3	308.1	285.4	169.6	26.1	92.0	170.8	215.5	420.3	253.2	258.3	133.1
West Godavari	203.3	153.2	156.7	125.6	16.6	23.8	46.0	56.8	451.6	540.7	690.8	610.1

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.



II.1. Animal Population

TABLE II.1.3: District-wise Female Population

Districts	Indigenous Cattle ('000)				Crossbred Cattle ('000)				Buffalo ('000)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	1,958	1,649	1,831	1,414	492	751	1,382	1,618	5,483	5,929	7,022	5,657
Anantapur	269.6	275.9	335.0	243.6	19.1	38.1	86.5	148.4	286.7	367.8	467.7	334.6
Chittoor	231.9	196.0	201.5	116.2	319.3	407.9	657.0	652.7	127.3	120.7	117.8	73.0
East Godavari	158.2	108.2	118.7	88.9	19.5	34.6	76.7	109.5	463.9	448.5	595.0	569.4
Guntur	42.8	35.5	50.9	41.9	2.7	3.1	4.4	6.5	854.5	835.2	1,039.6	893.3
Kadapa	65.0	58.2	62.2	61.0	3.2	5.2	18.9	26.1	379.7	391.8	444.2	404.9
Krishna	76.3	46.3	50.5	38.8	5.2	6.7	9.0	8.4	707.7	756.7	801.8	618.5
Kurnool	208.2	167.0	206.3	177.1	2.0	2.8	2.2	6.5	382.7	410.8	562.9	372.7
Nellore	115.6	77.3	84.5	64.9	1.9	3.0	11.3	9.0	543.1	555.7	664.1	550.4
Prakasam	44.2	36.1	35.2	26.6	0.3	1.1	1.1	1.9	708.6	888.6	1,077.9	854.0
Srikakulam	300.7	286.0	262.6	230.1	65.9	119.8	234.2	298.9	87.2	105.2	86.5	92.0
Vishakhapatnam	185.2	136.7	193.8	158.1	22.9	42.0	114.4	127.2	190.3	376.1	369.0	252.3
Vizianagaram	159.1	141.9	135.0	82.6	17.8	67.4	127.9	174.2	336.4	186.0	194.7	104.7
West Godavari	101.5	83.7	95.0	84.5	12.0	19.1	38.6	48.7	414.6	486.1	600.8	537.1

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.



II.1. Animal Population

TABLE II.1.4: District-wise Breedable Population

Districts	Indigenous Cattle ('000)				Crossbred Cattle ('000)				Buffalo ('000)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	1,415	1,209	1,311	1,003	331	542	956	1,129	3,897	4,315	4,961	3,982
Anantapur	194.3	204.9	243.0	177.4	13.6	27.1	61.0	107.5	207.6	274.9	337.4	242.8
Chittoor	167.8	146.6	148.3	86.0	210.5	297.3	453.2	450.4	90.9	91.2	80.8	50.6
East Godavari	114.8	78.8	86.3	61.9	14.1	25.5	53.5	77.6	333.4	324.4	427.1	409.2
Guntur	31.4	26.5	35.9	30.5	1.9	2.3	3.2	4.7	598.1	625.7	731.3	634.6
Kadapa	49.8	44.6	42.0	44.6	2.3	4.1	12.6	18.5	280.4	287.9	312.3	290.6
Krishna	52.5	34.2	35.1	28.5	3.7	4.7	6.1	6.0	484.2	538.5	560.4	424.2
Kurnool	157.5	125.0	151.2	131.5	1.6	1.9	1.5	4.7	286.4	304.0	407.8	266.8
Nellore	84.0	55.8	60.7	45.4	1.4	2.2	8.1	6.4	381.2	404.3	469.5	380.6
Prakasam	32.3	26.8	25.8	18.9	0.2	0.9	0.7	1.4	500.9	635.7	748.6	595.2
Srikakulam	208.0	201.1	186.6	151.8	44.3	83.0	161.1	204.2	63.3	76.2	63.2	62.4
Vishakhapatnam	132.4	102.3	132.8	109.9	16.2	30.9	79.0	89.7	137.1	276.2	259.7	177.6
Vizianagaram	119.8	103.9	96.9	58.3	12.6	48.5	89.8	123.5	248.8	137.3	140.4	76.7
West Godavari	69.9	58.3	66.0	58.4	8.3	13.5	26.6	34.5	284.4	339.0	422.6	370.3

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.



II.1. Animal Population

TABLE II.1.5: District-wise In-milk Population

Districts	Indigenous Cattle ('000)				Crossbred Cattle ('000)				Buffalo ('000)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	705	614	683	515	208	314	595	731	2,354	2,509	2,917	2,276
Anantapur	96.1	98.9	133.4	93.0	8.0	16.6	40.3	74.0	115.9	149.7	200.1	137.6
Chittoor	77.7	65.2	69.4	46.2	134.8	168.1	283.7	305.6	52.1	48.2	48.3	31.6
East Godavari	62.3	45.2	47.6	34.2	9.1	15.6	35.2	48.7	221.7	211.3	264.0	251.2
Guntur	14.8	13.7	17.5	13.0	0.9	1.3	1.8	2.7	391.2	365.4	425.6	350.0
Kadapa	22.3	19.2	22.4	19.8	1.3	2.7	7.3	12.2	144.3	137.8	167.6	146.5
Krishna	22.5	16.0	17.6	15.4	1.9	2.7	3.6	3.7	296.8	305.7	321.6	243.9
Kurnool	75.4	57.0	74.9	62.1	0.8	1.1	0.9	3.2	158.6	166.3	222.1	143.3
Nellore	32.7	27.4	28.8	23.3	0.7	1.3	4.3	3.9	209.6	222.4	259.4	218.9
Prakasam	16.6	13.2	11.8	9.1	0.1	0.5	0.3	0.8	299.4	388.7	465.3	346.7
Srikakulam	110.7	114.9	104.4	88.6	25.8	48.6	92.0	122.2	36.3	44.6	34.2	34.5
Vishakhapatnam	73.5	57.1	61.0	48.0	10.6	19.4	51.6	58.0	82.1	166.3	158.0	104.6
Vizianagaram	59.2	50.4	54.0	28.8	8.2	26.7	55.7	74.3	148.1	77.3	83.4	44.1
West Godavari	41.5	35.6	40.2	33.4	5.7	9.0	18.3	21.9	197.9	225.2	267.3	223.5

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.



II.1. Animal Population

TABLE II.1.6: District-wise Milch Population

Districts	Indigenous Cattle ('000)				Crossbred Cattle ('000)				Buffalo ('000)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	1,119	949	1,008	776	269	429	769	932	3,199	3,443	3,930	3,110
Anantapur	159.8	168.0	201.3	145.8	11.2	22.7	52.4	93.8	176.1	230.2	281.6	203.7
Chittoor	132.3	111.2	113.2	69.7	172.5	235.1	365.5	377.3	75.9	73.3	63.9	41.4
East Godavari	88.9	61.2	63.7	45.9	11.2	20.0	43.0	62.0	272.5	264.5	344.1	327.7
Guntur	21.0	21.2	23.5	22.1	1.3	1.7	2.3	3.6	489.1	490.2	562.1	472.8
Kadapa	39.6	35.0	34.0	34.1	1.9	3.5	9.8	15.5	228.8	225.3	248.5	227.1
Krishna	36.1	25.8	25.9	22.5	2.7	3.6	4.8	4.9	379.6	413.6	433.7	325.0
Kurnool	131.5	102.6	122.9	106.0	1.3	1.6	1.2	4.1	245.1	257.6	334.9	218.7
Nellore	65.2	40.5	44.9	33.9	1.0	1.7	5.8	5.1	317.1	308.6	363.8	296.8
Prakasam	25.7	21.5	16.8	14.5	0.2	0.7	0.5	1.2	416.6	520.1	598.5	464.1
Srikakulam	165.8	161.6	148.5	120.2	34.9	65.8	124.1	165.6	51.1	61.1	49.0	48.7
Vishakhapatnam	109.7	76.2	84.6	73.0	13.7	24.5	63.2	72.1	116.6	218.1	200.4	135.0
Vizianagaram	88.1	79.1	78.2	44.6	10.3	37.8	74.3	99.7	194.4	109.5	115.6	62.9
West Godavari	55.0	45.0	50.9	43.3	6.6	10.7	21.6	27.5	236.2	270.5	333.5	285.8

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.





II.1. Animal Population

TABLE II.1.7: District-wise Male Population

Districts	Indigenous Cattle ('000)				Crossbred Cattle ('000)				Buffalo ('000)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	2467	1,878	1,895	1,253	175	230	365	321	819	952	1,208	777
Anantapur	375.3	374.4	385.4	212.0	6.4	7.0	10.9	13.3	29.4	42.8	65.5	36.5
Chittoor	236.0	156.3	154.3	79.4	69.7	75.4	91.6	78.5	16.8	20.7	21.9	11.4
East Godavari	150.8	96.2	82.4	55.4	7.6	8.9	14.9	17.9	34.6	66.1	90.1	54.2
Guntur	87.7	65.8	76.7	60.0	1.7	1.0	0.7	1.7	106.4	125.9	160.6	114.7
Kadapa	149.5	94.6	82.8	48.0	1.4	1.3	6.2	4.1	49.5	55.4	63.5	62.0
Krishna	75.4	47.3	43.0	30.5	2.7	2.0	1.9	1.7	59.8	92.6	117.7	77.6
Kurnool	336.7	257.9	308.1	224.0	0.9	1.6	1.0	1.1	32.3	48.1	83.7	40.1
Nellore	147.5	75.1	73.3	40.3	0.7	1.0	1.8	1.8	86.6	78.7	105.3	74.3
Prakasam	111.5	81.7	77.4	45.9	0.6	0.4	1.5	0.6	122.3	140.8	196.0	116.3
Srikakulam	206.5	201.0	168.0	132.1	64.1	87.8	144.3	128.9	76.7	51.6	38.9	34.3
Vishakhapatnam	225.2	191.6	231.3	197.4	6.7	14.5	39.5	22.2	84.2	107.7	110.8	53.9
Vizianagaram	263.2	166.1	150.5	87.0	8.3	24.6	42.9	41.3	83.8	67.2	63.6	28.4
West Godavari	101.8	69.6	61.8	41.1	4.6	4.7	7.4	8.1	37.0	54.6	90.0	73.0

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.



II.2. Sex Ratio in Dairy Animals

TABLE II.2.1: District-wise Male-Female Ratio

Districts	Indigenous Cattle (%)				Crossbred Cattle (%)				Buffalo (%)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	56	53	51	47	26	23	21	17	13	14	15	12
Anantapur	58	58	53	47	25	16	11	8	9	10	12	10
Chittoor	50	44	43	41	18	16	12	11	12	15	16	13
East Godavari	49	47	41	38	28	21	16	14	7	13	13	9
Guntur	67	65	60	59	38	25	13	20	11	13	13	11
Kadapa	70	62	57	44	31	19	25	14	12	12	13	13
Krishna	50	51	46	44	35	23	18	16	8	11	13	11
Kurnool	62	61	60	56	31	37	31	14	8	10	13	10
Nellore	56	49	46	38	28	25	14	17	14	12	14	12
Prakasam	72	69	69	63	65	29	58	23	15	14	15	12
Srikakulam	41	41	39	36	49	42	38	30	47	33	31	27
Vishakhapatnam	55	58	54	56	23	26	26	15	31	22	23	18
Vizianagaram	62	54	53	51	32	27	25	19	20	27	25	21
West Godavari	50	45	39	33	28	20	16	14	8	10	13	12

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.

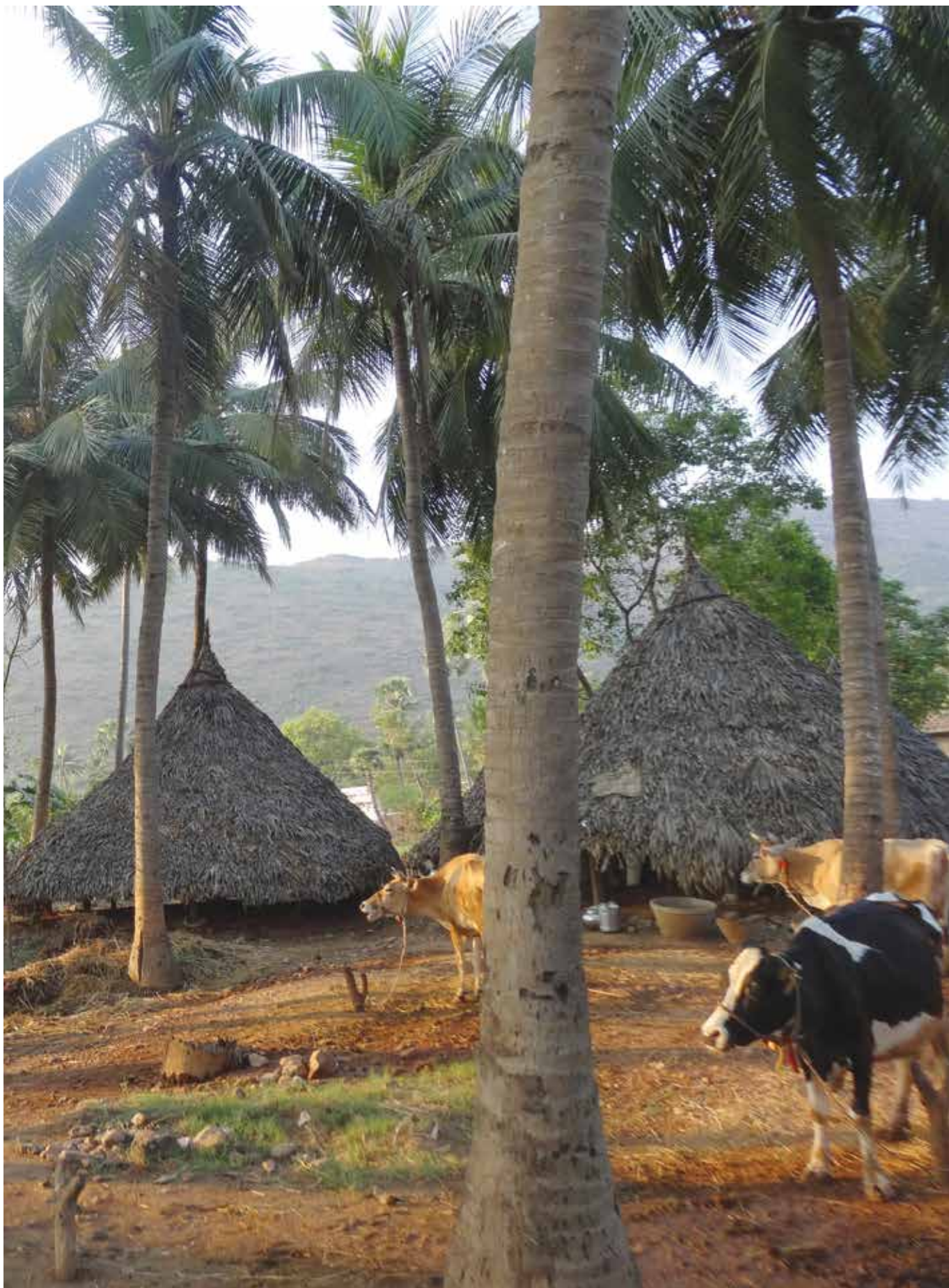


II.3. Wet-Dry Ratio of Dairy Animals

TABLE II.3.1: District-wise Wet-Dry Ratio

Districts	Indigenous Cattle (%)				Crossbred Cattle (%)				Buffalo (%)			
	1997	2003	2007	2012	1997	2003	2007	2012	1997	2003	2007	2012
ANDHRA PRADESH	63	65	68	66	77	73	77	78	74	73	74	73
Anantapur	60	59	66	64	71	73	77	79	66	65	71	68
Chittoor	59	59	61	66	78	71	78	81	69	66	76	76
East Godavari	70	74	75	74	81	78	82	79	81	80	77	77
Guntur	71	64	75	59	70	75	78	74	80	75	76	74
Kadapa	56	55	66	58	67	76	74	79	63	61	67	65
Krishna	62	62	68	68	71	75	76	76	78	74	74	75
Kurnool	57	56	61	59	61	71	75	78	65	65	66	66
Nellore	50	68	64	69	68	77	74	77	66	72	71	74
Prakasam	65	62	71	63	76	72	60	67	72	75	78	75
Srikakulam	67	71	70	74	74	74	74	74	71	73	70	71
Vishakhapatnam	67	75	72	66	77	79	82	80	70	76	79	77
Vizianagaram	67	64	69	65	80	71	75	75	76	71	72	70
West Godavari	76	79	79	77	87	84	84	79	84	83	80	78

SOURCE: 16th, 17th, 18th and 19th Livestock Census, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.





II.4. Cattle and Buffalo Breeds

TABLE II.4.1: District-wise breed-wise Indigenous Cattle Population – 2012

Districts	Punganur ('000)			Ongole ('000)			Deoni ('000)			Hallikar ('000)			Non-descript ('000)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
ANDHRA PRADESH	0.9	1.9	2.7	101.9	131.5	233.4	6.4	20.7	26.9	67.1	33.0	100.3	1,072.8	1,224.9	2,297.6
Anantapur	0.4	0.2	0.5	10.9	15.2	26.1	0.5	0.4	0.8	43.6	25.0	68.6	156.7	202.8	359.5
Chittoor	0.1	0.1	0.1	0.2	1.3	1.5	0	0	0	2.9	4.3	7.2	76.0	110.5	186.4
East Godavari	0	0	0	4.5	18.7	23.2	0.6	1.6	2.2	0	0	0	50.3	68.3	118.6
Guntur	0	0	0	3.4	4.8	8.1	0.7	1.2	1.9	0.2	0	0.3	55.7	35.8	91.5
Kadapa	0	0	0	4.1	5.3	9.4	0.4	1.3	1.6	1.1	0.1	1.1	42.5	54.4	96.9
Krishna	0	0	0.1	18.5	32.6	51.1	0	0	0	0.3	0	0.4	11.7	6.1	17.8
Kurnool	0	0	0	41.1	21.5	62.5	0.5	0.5	0.9	17.9	3.6	21.5	164.5	151.5	316.1
Nellore	0	0	0	4.6	5.4	10.1	0	0	0	0.2	0.0	0.2	35.3	59.3	94.6
Prakasam	0	0	0	7.1	4.0	11.2	0	0.4	0.4	0.4	0.0	0.4	38.4	22.1	60.4
Srikakulam	0	0	0	1.6	8.2	9.8	0	0	0	0	0	0	127.8	222.0	349.8
Visakhapatnam	0.4	1.6	2.0	2.8	2.7	5.5	0.3	1.1	1.5	0.5	0	0.6	192.3	151.0	343.3
Vizianagaram	0	0	0	0.8	0.6	1.4	0	0	0	0	0	0	86.3	82.0	168.2
West Godavari	0	0	0	2.3	11.2	13.5	3.4	14.2	17.6	0	0	0	35.3	59.1	94.5

Zero denotes either nil or negligible.

SOURCE: Livestock Population Breedwise, Based on Breed Survey, 2013, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.

NOTE: Breed includes both pure and Graded.



II.4. Cattle and Buffalo Breeds

TABLE II.4.2: District-wise breed-wise Crossbred Cattle Population – 2012

Districts	Holstein Friesian Exotic and Crossbred ('000)			Jersey Exotic and Crossbred ('000)		
	Male	Female	Total	Male	Female	Total
ANDHRA PRADESH	44.2	389.8	433.9	276.8	1,228.0	1,505.1
Anantapur	5.0	85.2	90.2	8.2	63.2	71.5
Chittoor	13.1	202.4	215.6	65.3	450.3	515.6
East Godavari	6.3	35.6	41.9	11.6	73.8	85.5
Guntur	0.9	4.3	5.2	0.8	2.2	3.0
Kadapa	1.6	14.1	15.6	2.5	12.0	14.5
Krishna	0.7	5.0	5.8	0.9	3.3	4.3
Kurnool	0.3	1.7	1.9	0.8	4.8	5.6
Nellore	0.5	1.9	2.4	1.3	7.1	8.4
Prakasam	0.2	0.3	0.5	0.4	1.5	1.9
Srikakulam	8.4	8.2	16.5	120.6	290.7	411.3
Visakhapatnam	2.8	13.4	16.3	19.4	113.8	133.2
Vizianagaram	1.9	2.0	3.9	39.4	172.2	211.6
West Godavari	2.5	15.7	18.1	5.6	33.1	38.7

Zero denotes either nil or negligible.

SOURCE: Livestock Population Breedwise, Based on Breed Survey, 2013, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.

NOTE: Breed includes both pure and cross.



II.4. Cattle and Buffalo Breeds

TABLE II.4.3: District-wise major breed-wise Buffalo Population – 2012

Districts	Jaffarabadi ('000)			Murrah ('000)			Nagpuri ('000)			Non Descript ('000)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
ANDHRA PRADESH	0.9	6.8	7.9	426.6	3,356.3	3,782.7	1.9	9.0	10.9	347.1	2,284.0	2,630.6
Anantapur	0.0	0.5	0.5	11.8	91.0	102.9	0.0	0.0	0.0	24.7	243.0	267.7
Chittoor	0.0	0.0	0.0	2.7	15.5	18.2	0.0	0.0	0.0	8.7	57.5	66.1
East Godavari	0.0	0.0	0.0	35.8	434.4	470.1	1.8	8.1	9.9	16.6	126.9	143.4
Guntur	0.2	1.3	1.5	86.8	722.1	808.9	0.0	0.0	0.0	27.6	169.9	197.5
Kadapa	0.2	0.6	0.8	19.4	108.8	128.2	0.1	0.8	0.9	42.3	294.7	337.0
Krishna	0.0	0.2	0.2	72.5	588.5	661.0	0.0	0.0	0.0	5.1	29.8	34.9
Kurnool	0.0	0.0	0.1	14.3	117.7	132.0	0.0	0.1	0.1	25.8	254.8	280.6
Nellore	0.0	0.3	0.4	33.1	228.2	261.3	0.0	0.0	0.0	41.1	321.9	363.0
Prakasam	0.0	0.0	0.0	56.2	402.5	458.6	0.0	0.0	0.0	60.2	451.5	511.6
Srikakulam	0.0	0.0	0.0	8.6	32.9	41.5	0.0	0.0	0.0	25.7	59.1	84.8
Visakhapatnam	0.0	0.0	0.0	24.1	188.6	212.7	0.0	0.0	0.0	29.7	63.0	92.6
Vizianagaram	0.3	2.0	2.3	8.8	39.3	48.0	0.0	0.0	0.0	19.3	63.5	82.7
West Godavari	0.2	1.9	2.1	52.5	386.8	439.3	0.0	0.0	0.0	20.3	148.4	168.7

Zero denotes either nil or negligible.

SOURCE: Livestock Population Breedwise, Based on Breed Survey, 2013, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.

NOTE: Breed includes both pure and Graded.



PART III : CATTLE AND BUFFALO BREEDS

Andhra Pradesh has two native cattle breeds viz Ongole and Punganur. The Ongole breed cow is known for high milk yielding capacities and adaptability in tough conditions. The Ongole is one of the ancient cattle breeds of India originating from the Ongole taluka of Nellore district of Andhra Pradesh. It is well adapted to warm climate and are extremely heat tolerant. They can thrive on scanty and dry fodder and remain active producers until 15 years of age. They are characterized by short and stumpy horns and large fan shaped fleshy dewlap. Professional grazers called lambadis graze them in groups.

In case of Punganur, it was developed by the then Rulers of Punganur taluk in Chittoor district. They have crescent shaped horns and are short to medium in size and therefore, used for agriculture operations in light soil or tongas. They are housed only during night and graze in the wastelands.





III.1. Distribution of Native Breeds in Andhra Pradesh

TABLE III.1.1: Distribution of Cattle Breeds in Andhra Pradesh

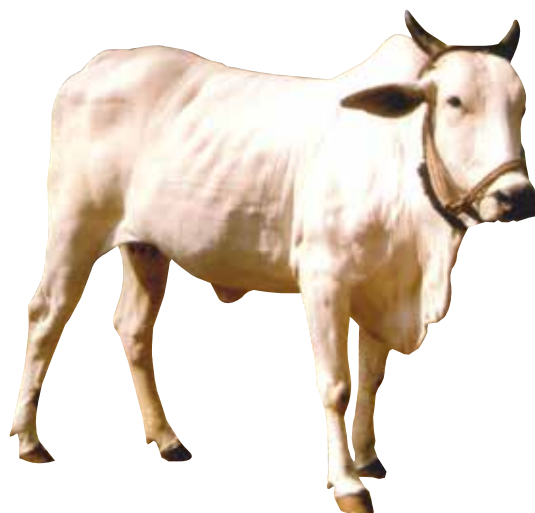
Breeds	Breeding Tract	Utility	Distribution
Ongole	East Godavari, Guntur, Kurnool, Nellore, Ongole	Draught and Milk	Kurnool, Krishna, Anantapur, East Godavari, West Godavari, Prakasam, Nellore, Srikakulam, Kadapa, Guntur
Punganur	Chittoor	Draught and Milk	Chittoor, Vishakhapatnam, Anantapur, Krishna

SOURCE: Animal Genetic Resources of India (AGRI-IS), National Bureau of Animal Genetic Resources, ICAR and Livestock Population Breedwise, Based on Breed Survey, 2013, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.





Distribution of Indigenous Cattle Breeds



■ Ongole



■ Punganur



Distribution of Indigenous Cattle Breeds



■ Deoni



■ Hallikar



Distribution of Buffalo Breeds



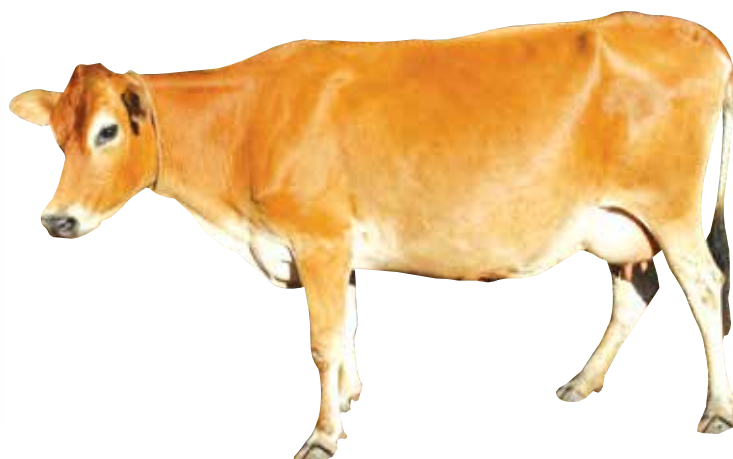
■ **Murrah**



■ **Nagpuri**



Distribution of Jersey Crossbred



■ Jersey Crossbred

Distribution of Holstein Friesian Crossbred



■ Holstein Friesian Crossbred



III.2. Performance of Major Breeds

TABLE III.2.1: Performance of Native Cattle Breeds

Parameter	Cattle Breeds	
	Ongole	Punganur
Colour	Ongole have a glossy white coat called padakateeru by the breeders. Males have dark grey markings on head, neck and hump, black points on knees and pasterns, black muzzle and black eye-lashes.	Punganur cattle are white, grey or light brown to dark brown or red. White mixed with red or black colour animals are also available. Combination of white with brown or black patches is not uncommon.
Average Adult Body Weight (Kg)	Male: 434 Female: 382	Male: 240 Female: 170
Lactation Yield (Kg)	798	546 (194-1,100)
Calving Interval (days)	394	446
Age at First Calving (days)	1,367	1,110
Average Milk Fat (%)	3.8	5.0

SOURCE: Animal Genetic Resources of India (AGRI-IS), National Bureau of Animal Genetic Resources, ICAR.





PART IV : MILK PRODUCTION

Over last decade ending 2016-17, milk production in Andhra Pradesh has increased to 121.75 lakh tonnes (LT) with an annual growth rate of above 7 per cent. Buffalo milk constituted about 69 per cent of total milk production in the State. The five districts of Krishna, Prakasam, Guntur, Chittoor and East Godavari together produced about half of the total milk production of the State. The growth is seen amidst two consecutive dry spell and drought conditions in the State and solely due to pragmatic policy of the State government. It supplied silage, Total Mixer Ration (TMR) and fodder to the farmers on subsidy price so that the profit from dairying remains high. The 'OoruraPasugrasam' (grass in every village) scheme has been implemented wherein farmers are encouraged to grow grass taken up in a massive way and till now, about 30,000 acres are covered under the scheme.





IV.1. Production Performance

TABLE IV.1.1: Year-wise In-milk Bovine Population, Milk Yield and Milk Production

Year	In-milk Bovine ('000)	Milk Yield (kg/day)	Bovine Milk Production ('000 MT)
2001-02	3,307	3.26	3,939
2002-03	3,597	3.33	4,369
2003-04	3,317	3.90	4,727
2004-05	3,456	4.25	5,360
2006-07	3,842	3.93	5,504
2007-08	4,450	3.81	6,193
2009-10	4,798	4.13	7,238
2010-11	4,980	4.26	7,735
2011-12	5,309	4.34	8,402
2013-14	5,017	4.96	9,084
2015-16	5,459	5.43	10,813
2016-17	6,000	5.56	12,175

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt of Andhra Pradesh and Basic Animal Husbandry Statistics Report, Ministry of Agriculture and Farmers Welfare, Govt. of India.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



IV.1. Production Performance: Animal Population

TABLE IV.1.2: Year-wise & District-wise In-milk Bovine Population

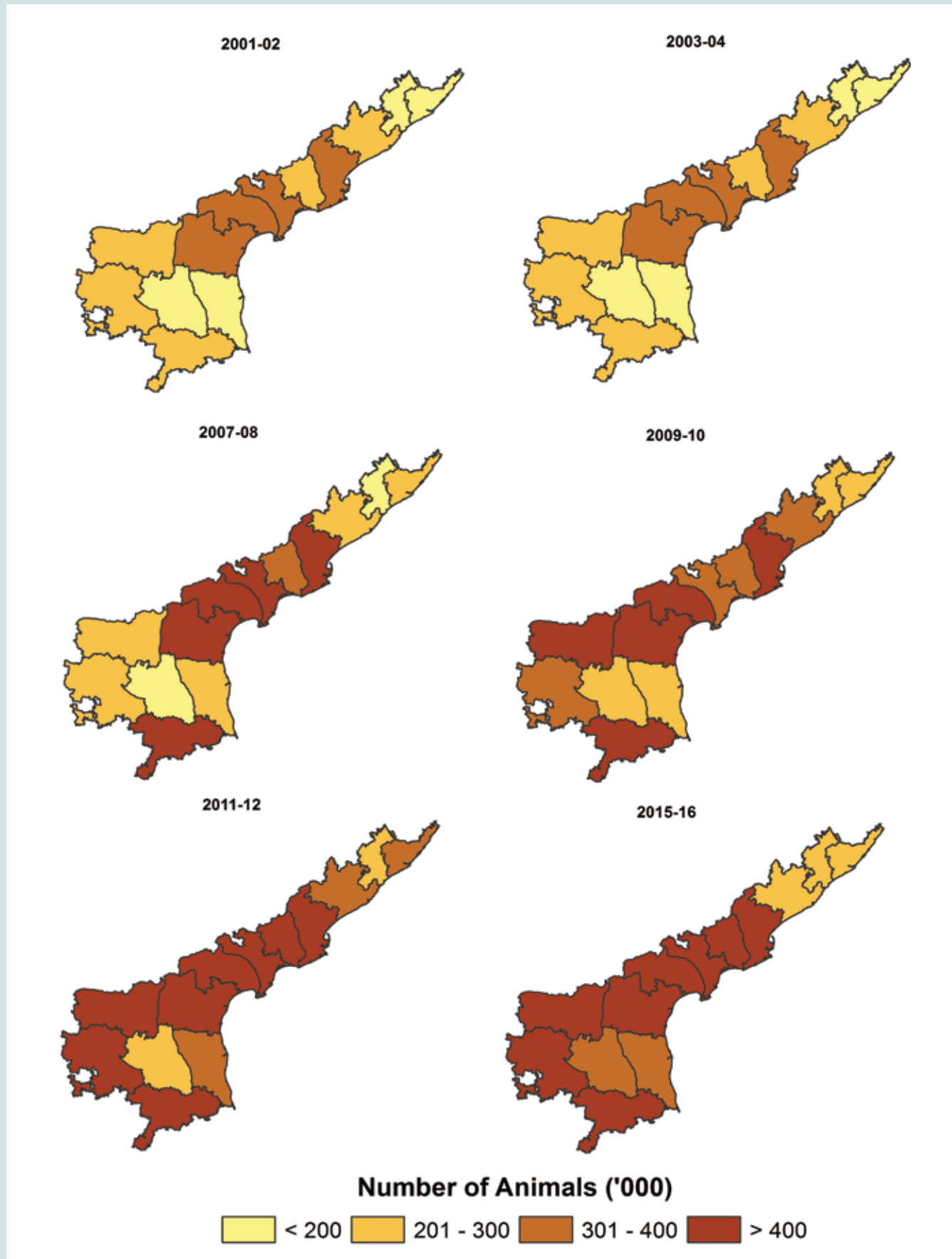
Districts	In-milk Bovine Population ('000)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	3,307	3,597	3,317	3,842	4,450	4,798	4,980	5,309	5,017	5,459
Anantapur	207	235	202	211	245	372	403	441	404	438
Chittoor	268	299	279	433	502	403	435	473	394	466
East Godavari	337	359	341	499	570	462	381	423	401	464
Guntur	386	403	385	476	558	509	543	579	490	490
Kadapa	189	210	184	139	161	237	240	244	236	328
Krishna	392	413	391	393	457	392	412	435	407	504
Kurnool	272	291	260	254	295	408	423	410	507	574
Nellore	166	188	167	195	226	268	290	317	325	345
Prakasam	302	320	302	377	438	535	572	606	564	611
Srikakulam	179	206	179	183	208	276	298	328	312	285
Visakhapatnam	205	224	202	247	287	334	332	351	308	297
Vizianagaram	164	185	163	155	179	234	254	282	256	222
West Godavari	240	264	264	281	324	368	397	421	415	435

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise In-milk Bovine Population





IV.1. Production Performance: Animal Population

TABLE IV.1.3: Year-wise & District-wise In-milk Indigenous Cattle Population

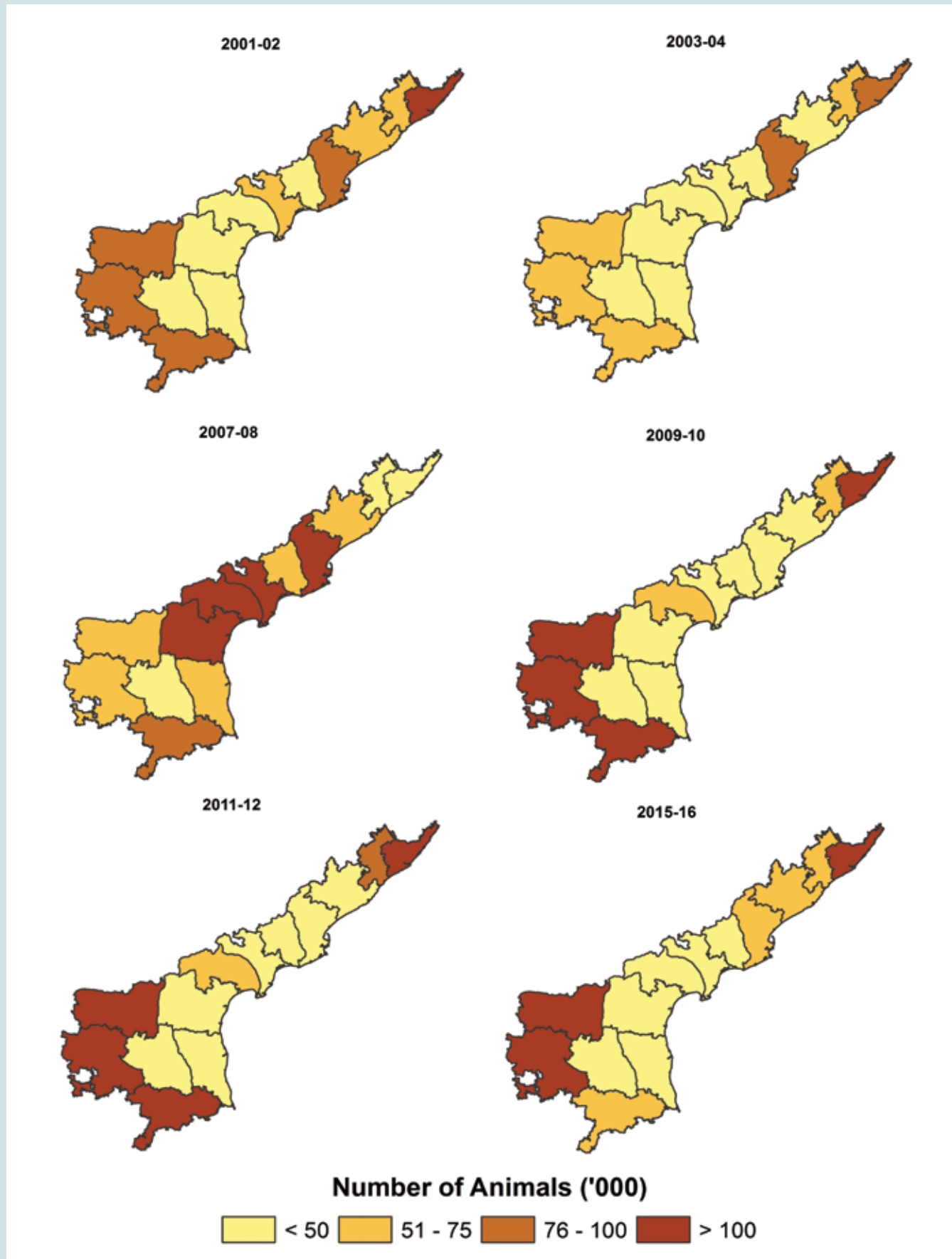
Districts	In-milk Indigenous Cattle Population ('000)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	764	803	607	862	986	830	873	916	830	847
Anantapur	83	90	66	48	55	107	116	126	121	130
Chittoor	76	78	59	79	91	157	166	184	112	73
East Godavari	100	101	78	131	150	31	25	28	28	53
Guntur	13	15	11	106	121	51	55	60	49	12
Kadapa	30	35	26	36	41	26	27	27	25	31
Krishna	51	53	40	94	107	22	26	12	11	33
Kurnool	86	89	68	52	60	104	109	102	124	182
Nellore	33	38	27	47	53	14	15	18	17	28
Prakasam	15	18	12	90	103	35	38	40	36	15
Srikakulam	115	118	91	36	41	128	135	147	146	113
Visakhapatnam	59	60	45	51	58	47	45	47	43	69
Vizianagaram	72	75	58	32	37	69	73	82	76	68
West Godavari	31	33	27	61	69	39	42	45	43	41

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise In-milk Indigenous Cattle Population





IV.1. Production Performance: Animal Population

TABLE IV.1.4: Year-wise & District-wise In-milk Crossbred Cattle Population

Districts	In-milk Crossbred Cattle Population ('000)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	219	290	292	275	319	559	604	652	785	917
Anantapur	9	16	17	16	18	31	36	38	46	121
Chittoor	135	150	150	31	35	174	193	206	243	362
East Godavari	13	20	20	33	38	60	52	56	74	62
Guntur	1	4	2	33	39	19	22	27	23	4
Kadapa	1	4	4	9	11	11	12	12	13	17
Krishna	3	5	7	27	31	17	18	20	22	3
Kurnool	2	4	4	18	21	13	14	15	18	7
Nellore	1	4	3	15	17	14	16	20	23	5
Prakasam	0	0	1	28	32	29	32	35	37	1
Srikakulam	27	37	38	15	17	53	60	63	87	134
Visakhapatnam	7	11	12	17	19	62	64	69	85	76
Vizianagaram	10	17	17	15	18	50	57	62	78	101
West Godavari	10	18	18	19	23	25	29	30	35	23

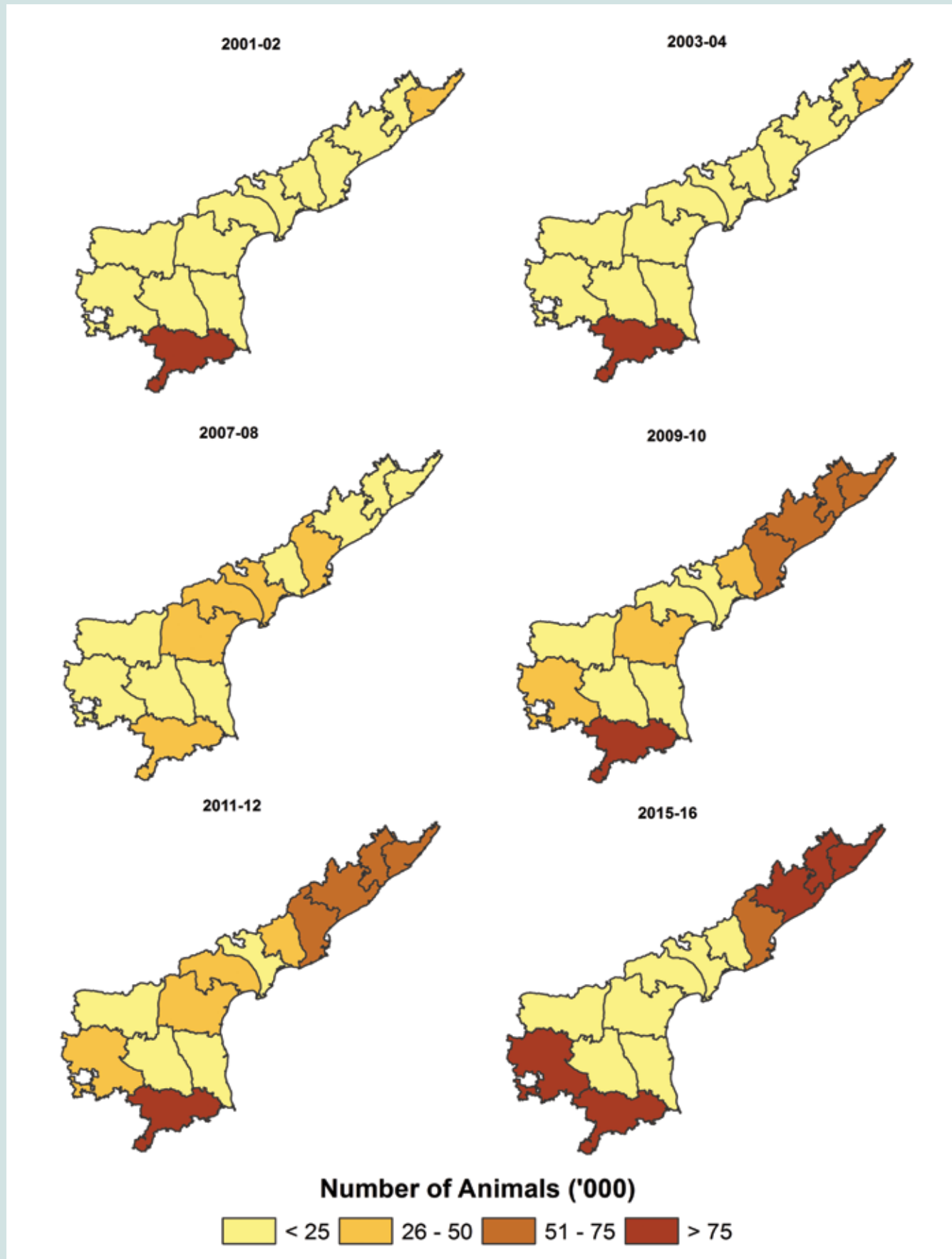
Zero denotes either nil or negligible.

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise In-milk Crossbred Cattle Population





IV.1. Production Performance: Animal Population

TABLE IV.1.5: Year-wise & District-wise In-milk Buffalo Population

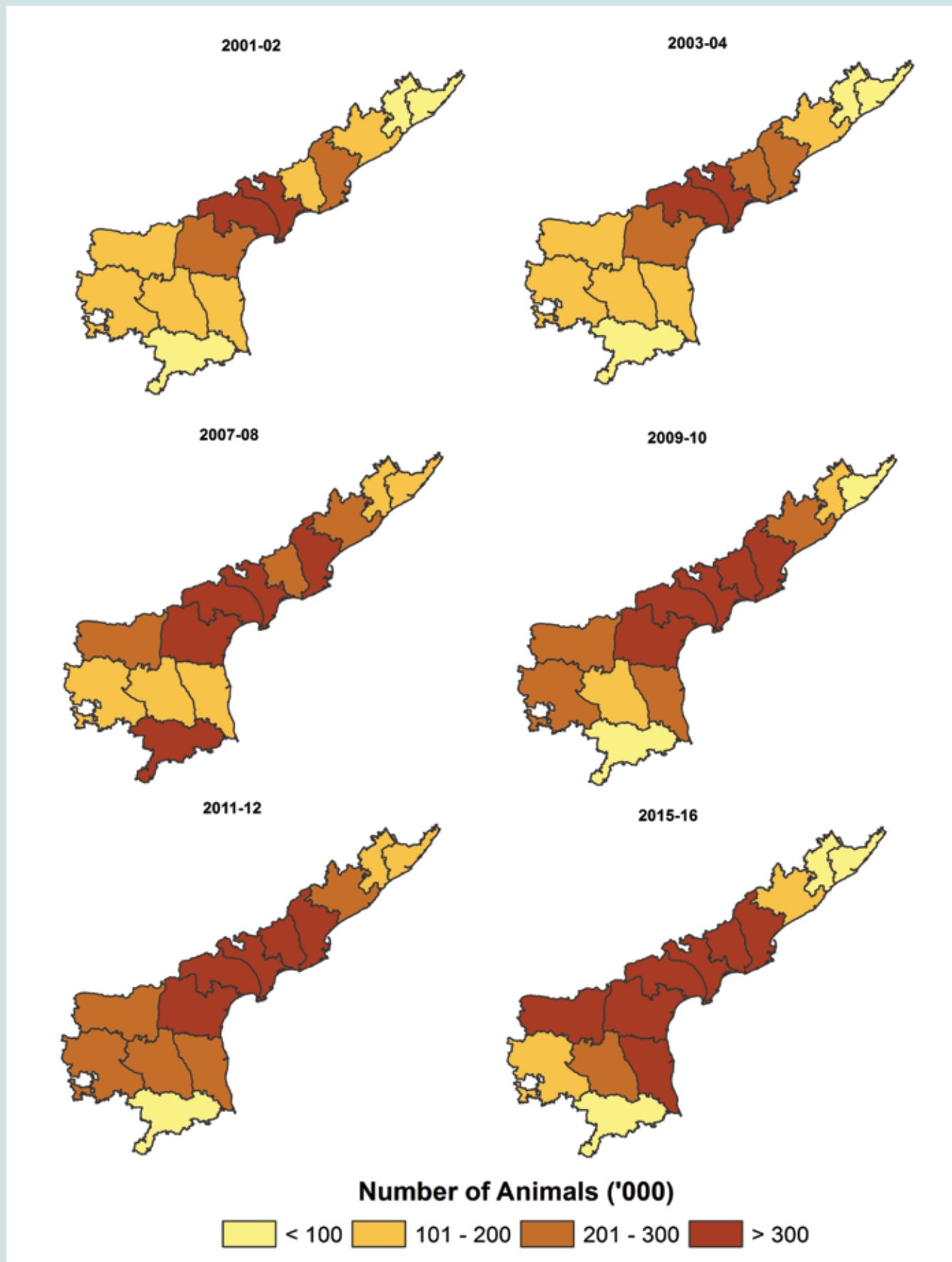
Districts	In-milk Buffalo Population ('000)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	2,324	2,504	2,418	2,706	3,146	3,409	3,503	3,741	3,402	3,695
Anantapur	115	129	119	147	171	234	252	277	238	186
Chittoor	57	71	70	323	376	72	77	84	38	31
East Godavari	224	238	243	335	382	371	304	340	300	349
Guntur	372	384	372	337	398	439	466	491	418	475
Kadapa	158	171	154	94	109	199	202	205	198	281
Krishna	338	355	344	272	319	353	368	404	373	467
Kurnool	184	198	188	184	214	291	301	293	365	385
Nellore	132	146	137	134	156	240	259	279	285	313
Prakasam	287	302	290	260	303	472	501	531	490	595
Srikakulam	37	51	51	133	151	95	102	118	79	37
Visakhapatnam	139	153	144	180	210	225	222	235	179	151
Vizianagaram	82	93	88	108	125	115	124	139	102	53
West Godavari	199	213	219	201	232	304	326	346	336	371

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise In-milk Buffalo Population





IV.2. Production Performance: Milk Production

TABLE IV.2.1: Year-wise & District-wise Bovine Milk Production

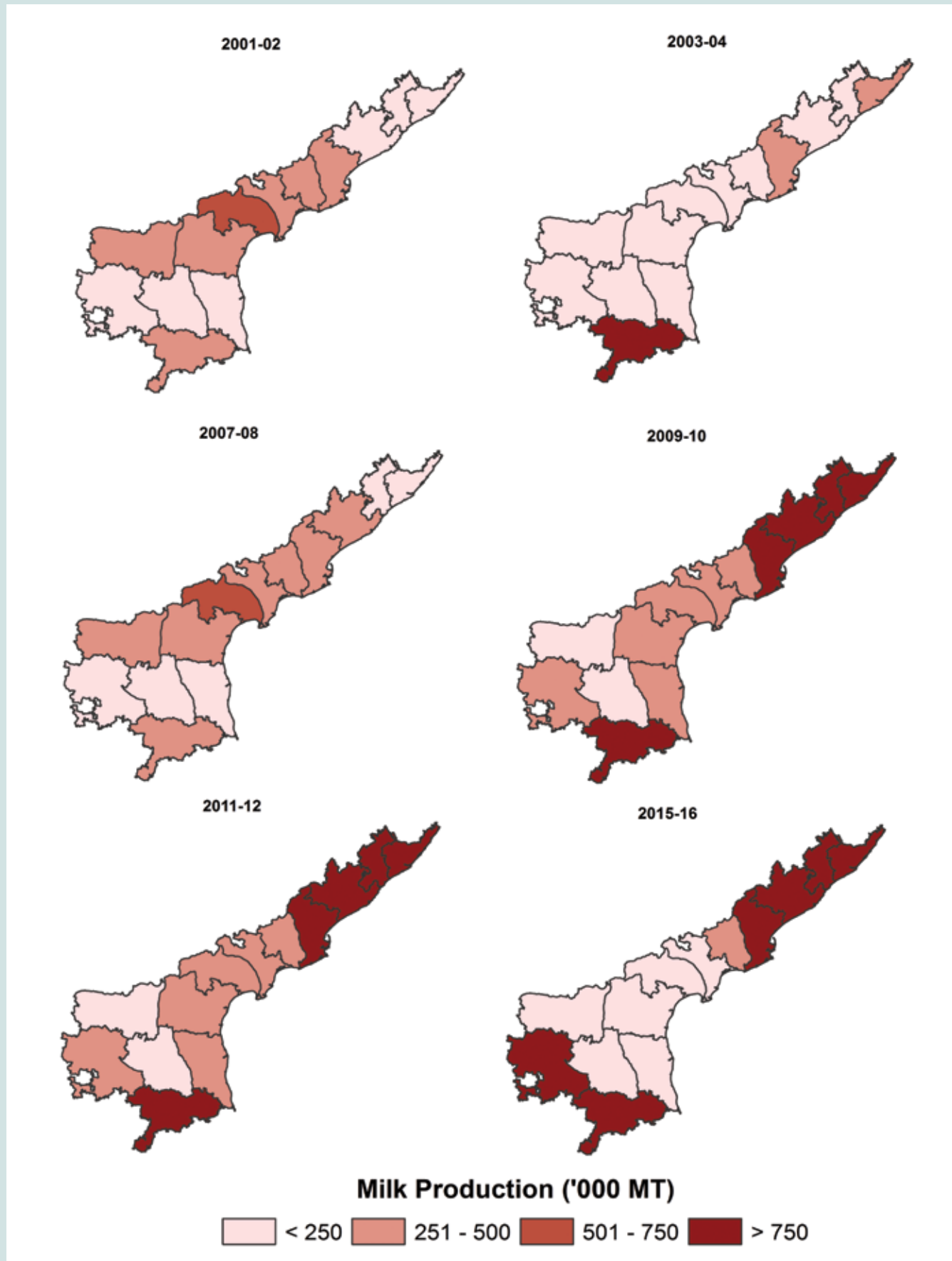
Districts	Bovine Milk Production ('000 MT)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	3,939	4,369	4,727	5,504	6,193	7,238	7,735	8,402	9,084	10,813
Anantapur	182	192	185	265	299	384	433	470	482	671
Chittoor	466	535	540	591	665	751	851	938	948	1,163
East Godavari	426	483	536	601	675	781	667	751	829	962
Guntur	539	528	599	707	795	830	913	998	977	1,165
Kadapa	142	136	149	161	182	277	291	295	319	418
Krishna	427	487	534	584	657	766	818	920	989	1,192
Kurnool	287	355	365	415	467	484	511	515	706	917
Nellore	210	223	234	289	325	385	431	474	559	620
Prakasam	310	304	349	545	613	835	920	990	1,050	1,174
Srikakulam	169	187	187	238	268	311	348	380	426	498
Visakhapatnam	227	313	321	377	424	498	509	539	552	573
Vizianagaram	157	180	178	239	269	318	356	390	414	503
West Godavari	397	446	550	492	554	618	687	742	833	957

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise Bovine Milk Production





IV.2. Production Performance: Milk Production

TABLE IV.2.2: Year-wise & District-wise Indigenous Cattle Milk Production

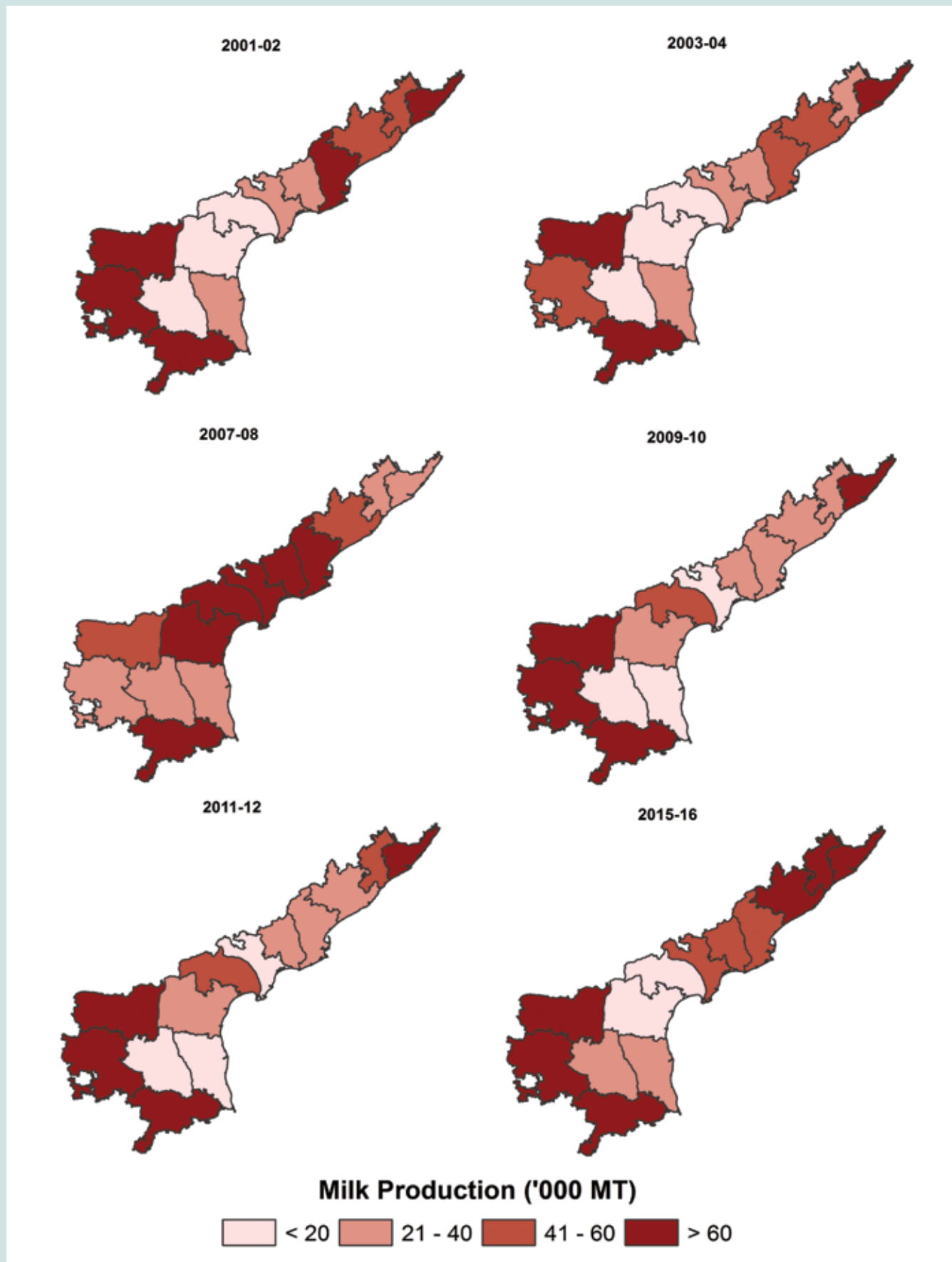
Districts	Indigenous Cattle Milk Production ('000 MT)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	600	656	482	654	731	599	659	699	672	809
Anantapur	63.2	61.8	45.4	31.5	35.2	60.7	68.9	74.6	77.4	104.5
Chittoor	79.5	82.6	60.6	70.2	78.5	150.5	170.4	192.8	128.8	73.2
East Godavari	65.5	74.6	54.9	71.3	79.7	27.1	23.1	25.5	28.1	48.4
Guntur	12.2	8.3	6.1	83.9	93.8	43	47.7	52.8	48	12.1
Kadapa	16.9	12.7	9.3	19.2	21.4	15.2	15.9	15.8	16.4	22.1
Krishna	36.6	48.1	35.3	69.3	77.5	19.7	23.1	10.6	11.6	40.5
Kurnool	69.8	82.5	60.7	49.3	55.1	65.6	70.4	68.3	88.4	189.5
Nellore	30.1	31.6	23.3	34.4	38.4	9.7	10.9	13.1	13.1	20.8
Prakasam	14.9	13	9.5	64.8	72.4	29.2	32.4	33.4	34.5	14.7
Srikakulam	84.8	83.7	61.6	28.4	31.8	71.9	80.1	86.9	95.7	86.6
Visakhapatnam	49.8	67	49.2	44.7	50.0	33	33.8	35.3	35.2	68.2
Vizianagaram	51.2	53.9	39.6	28.4	31.8	39.8	44.6	50	51.2	80.9
West Godavari	25.5	35.7	26.7	58.5	65.4	33.7	37.5	39.7	43.3	47.7

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise Indigenous Cattle Milk Production





IV.2. Production Performance: Milk Production

TABLE IV.2.3: Year-wise & District-wise Crossbred Cattle Milk Production

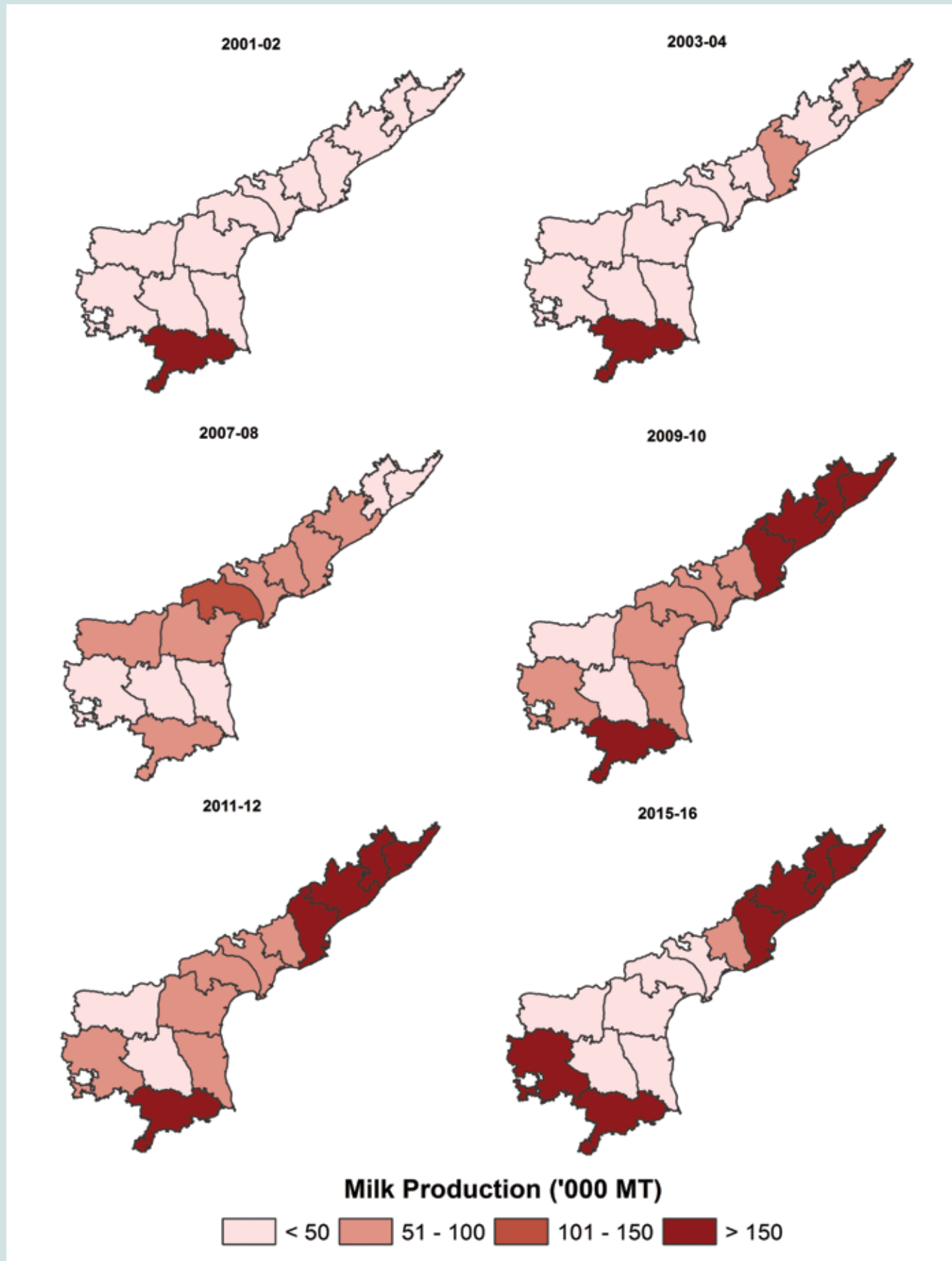
Districts	Crossbred Cattle Milk Production ('000 MT)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	489	657	699	779	879	1,475	1,613	1,779	2,142	2,560
Anantapur	11.8	15.2	15.8	37.6	42.4	74	85	89.7	109.8	297.1
Chittoor	310.6	359.9	375.1	83.7	94.4	495.8	564.5	621.2	738.9	1041.5
East Godavari	33.2	52.7	54.9	85	95.9	161.4	140.2	154.8	204.3	165.6
Guntur	3.2	1.5	12.4	100	112.9	54.6	61.3	79.5	67	11.6
Kadapa	3.5	5	5.2	22.8	25.8	27.7	29.7	31.6	34.1	45.2
Krishna	21.5	40.5	42.2	82.7	93.3	47.2	51.7	57.2	65.2	11.2
Kurnool	4.2	13	17.5	58.8	66.3	31.6	33.9	39.9	46.8	23.3
Nellore	2.3	6.3	6.6	41	46.2	37.6	43	53.4	61.2	12.2
Prakasam	0.5	2.8	2.9	77.2	87.1	73.6	82.9	92	97.1	2.8
Srikakulam	46.1	56.5	58.9	33.7	38.1	129.7	147	155.4	217	341.5
Visakhapatnam	16.6	42.7	44.5	53.3	60.2	148.1	153.8	168.1	206.5	216.4
Vizianagaram	16.9	25.9	27	33.9	38.2	126.1	143.2	156.1	198.4	315.9
West Godavari	18.4	34.9	36.4	69.7	78.6	67.2	76.3	80.1	96	75.2

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise Crossbred Cattle Milk Production





IV.2. Production Performance: Milk Production

TABLE IV.2.4: Year-wise & District-wise Buffalo Milk Production

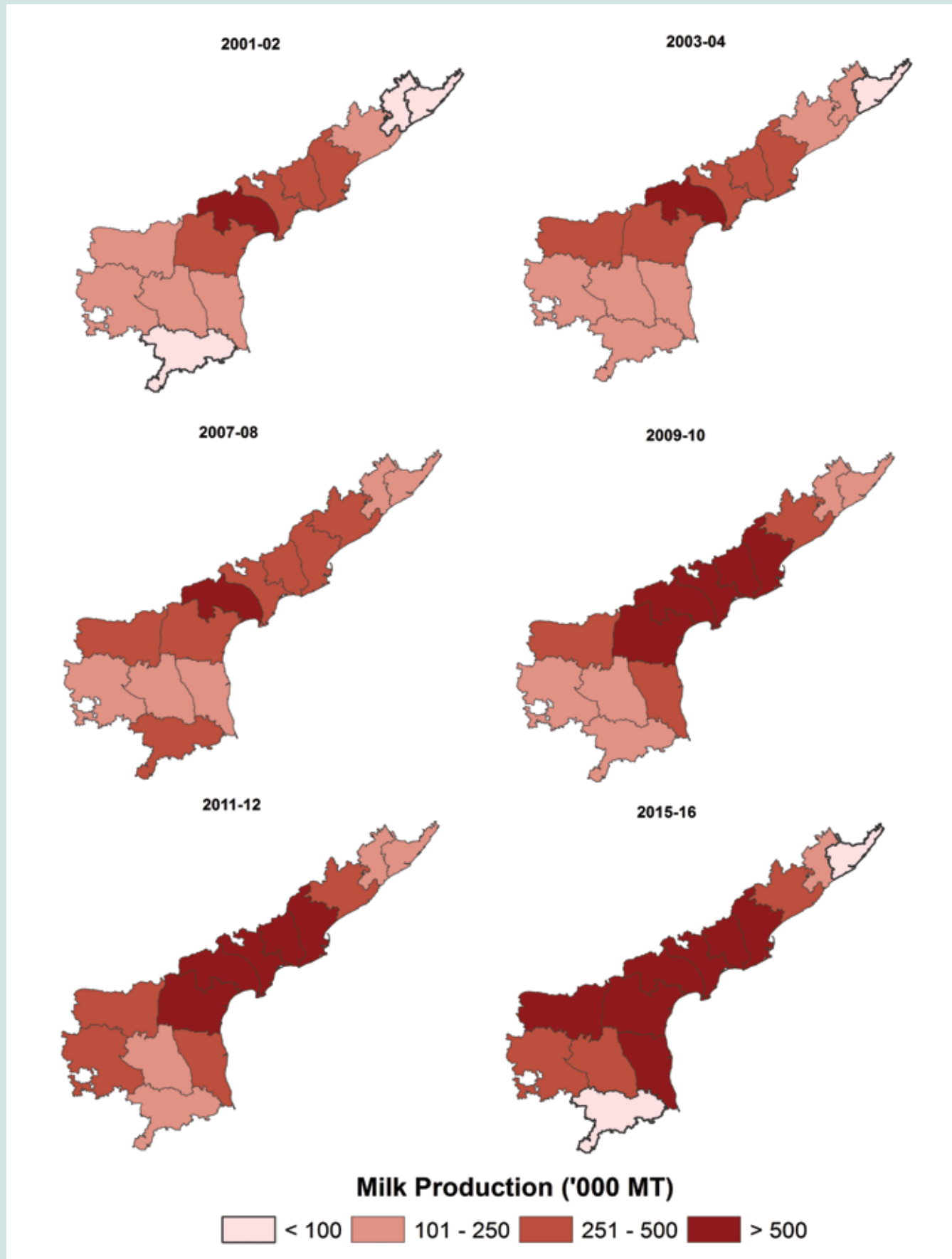
Districts	Buffalo Milk Production ('000 MT)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	2,849	3,056	3,546	4,073	4,582	5,164	5,463	5,924	6,268	7,445
Anantapur	106.9	114.8	123.8	196.3	220.9	249.3	279.2	305.6	294.8	269
Chittoor	75.8	92.5	104.2	437.3	492	104.5	116	123.9	80.3	48.4
East Godavari	327.3	355.3	426.1	444.2	499.8	592.5	503.3	570.7	596.2	748.1
Guntur	523.6	518.5	580.9	522.7	588.2	732.5	803.8	865.7	861.8	1,141.3
Kadapa	121.5	117.9	134.8	119.3	134.3	234.1	244.9	247.6	268.1	351.1
Krishna	368.8	397.9	456.3	431.9	486	699	743.4	852.1	912.4	1,140.2
Kurnool	213.1	259.1	287	307.2	345.6	386.8	406.2	406.7	570.6	704.4
Nellore	177.5	185.4	203.9	214	240.8	337.7	377.2	407.6	484.3	587.4
Prakasam	294.6	288.6	336.2	403.4	453.9	732.2	804.8	864.6	918.2	1,156.4
Srikakulam	38.1	47.1	66.6	176.3	198.4	109.3	121.3	137.7	112.8	69.5
Visakhapatnam	160.6	203.7	227.2	278.7	313.6	316.9	321.3	335.6	310.7	288.7
Vizianagaram	88.7	100.4	111.8	177.1	199.2	152.2	168.2	183.9	164.7	106.6
West Godavari	352.9	375.2	486.7	364.1	409.7	517.2	573.4	622.1	693.2	833.9

SOURCE: Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

NOTE: Reproduced from Integrated Sample Survey (ISS) reports published by the Directorate of Animal Husbandry, Govt. of Andhra Pradesh.

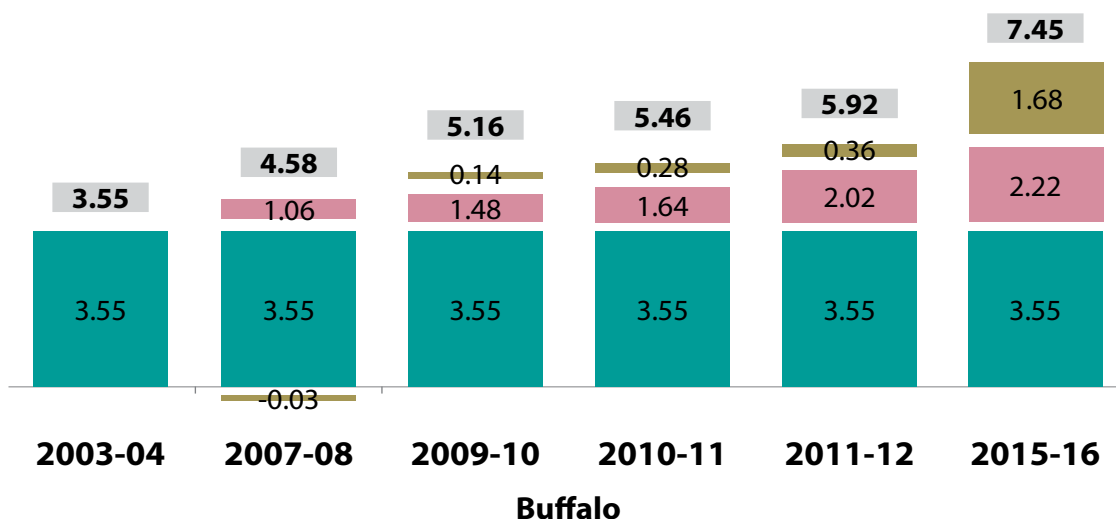
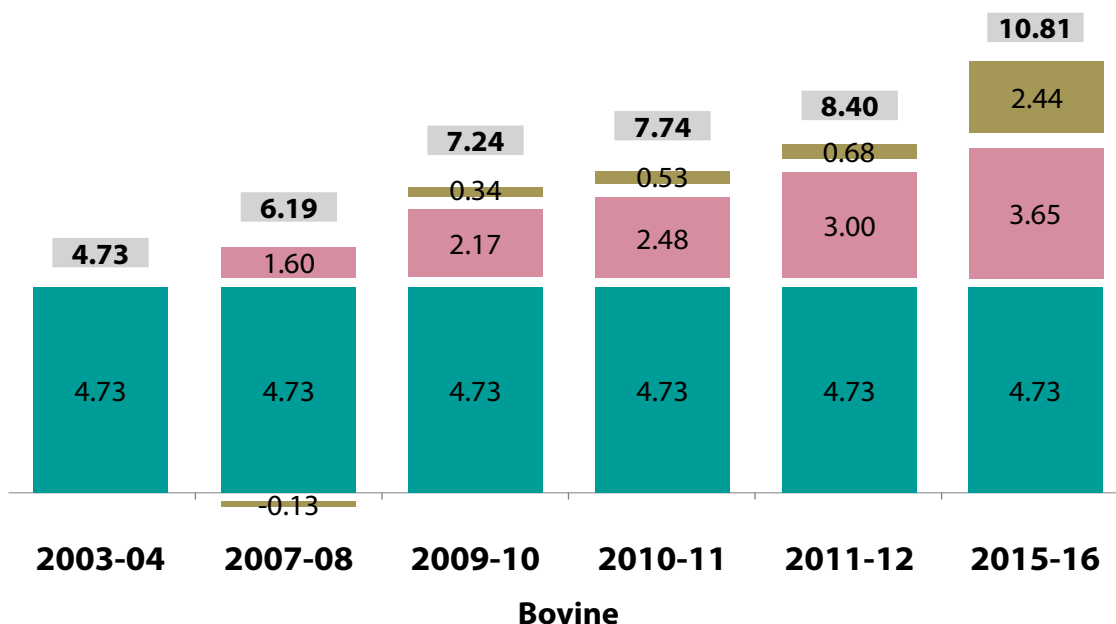


District-wise Buffalo Milk Production





Andhra Pradesh's Milk Production (MMT) (Change due to no. of in-milk animals and average yield)

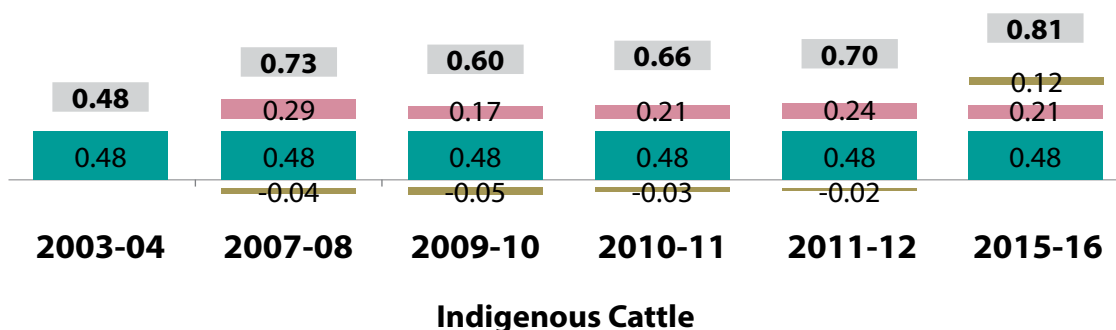
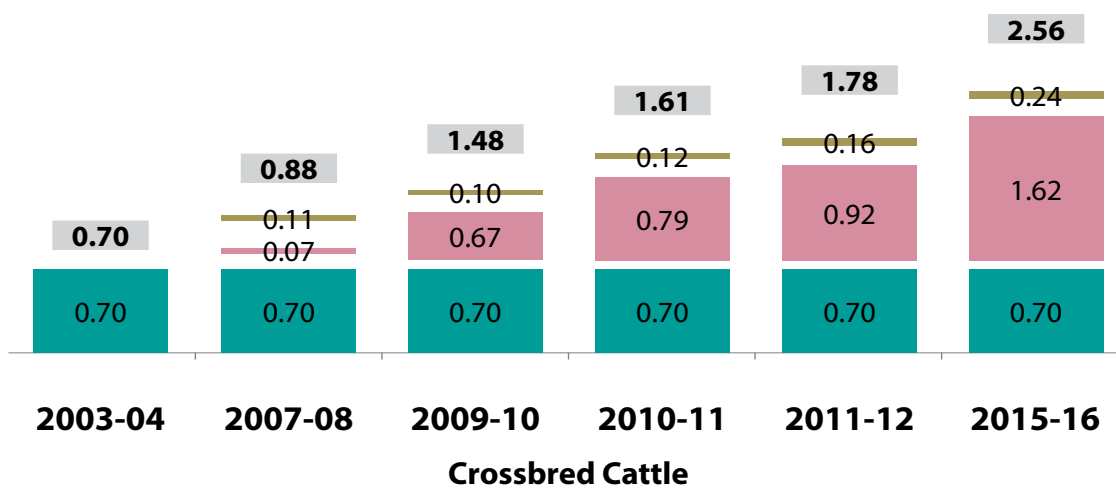


- Total milk production - MMT
- Change in total milk production due to change in average yield - kg/in-milk animal per day - MMT
- Change in total milk production due to change in numbers of in milk animals - MMT
- Milk production in base year -2003-04 - MMT





Andhra Pradesh's Milk Production (MMT) (Change due to no. of in-milk animals and average yield)



- Total milk production - MMT
- Change in total milk production due to change in average yield - kg/in-milk animal per day - MMT
- Change in total milk production due to change in numbers of in milk animals - MMT
- Milk production in base year -2003-04 - MMT





IV.2. Production Performance: Milk Production

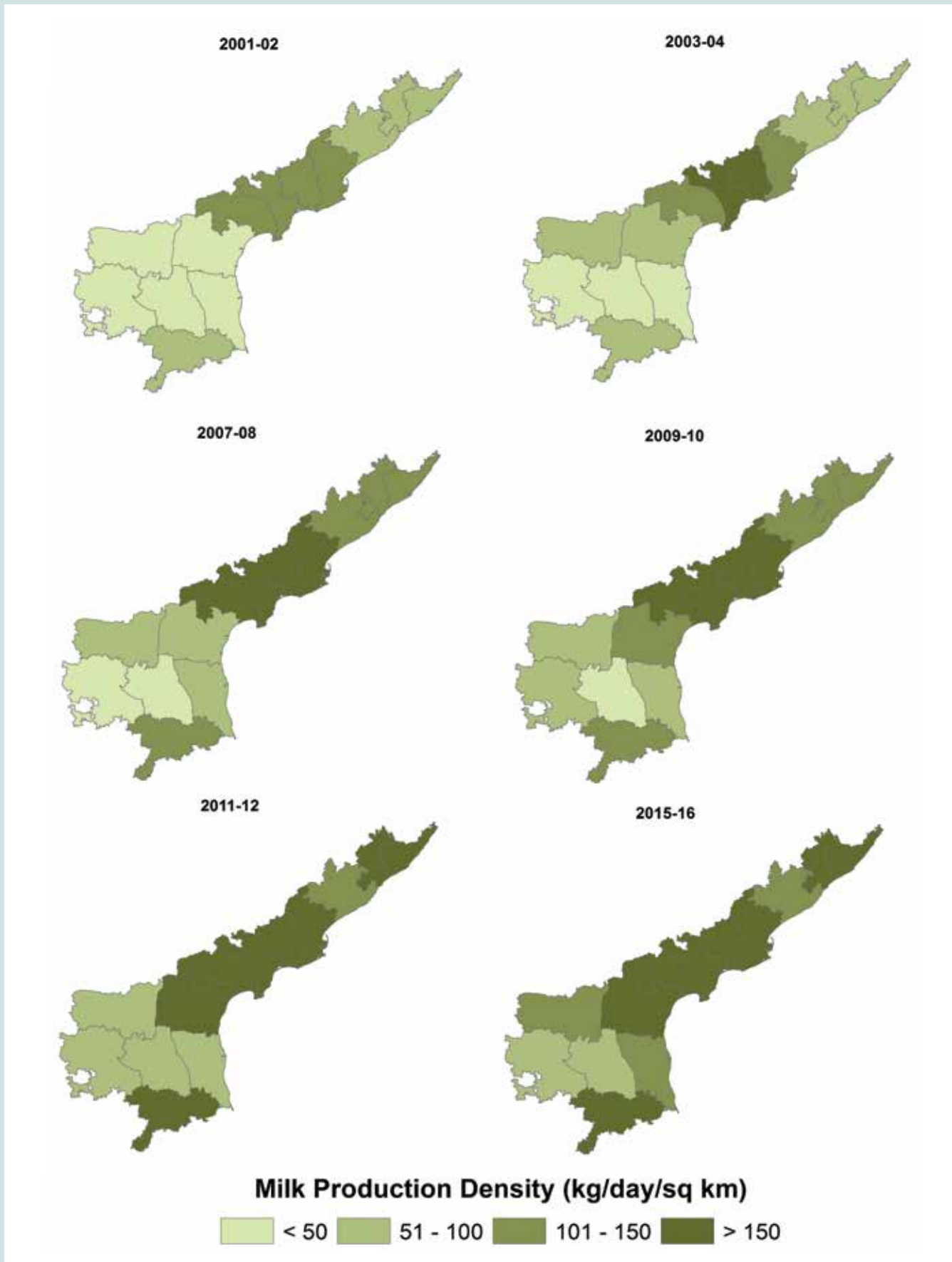
TABLE IV.2.5: Year-wise & District-wise Total Milk Production Density

Districts	Milk Production Density (kg/day/sq km)									
	2001-02	2002-03	2003-04	2006-07	2007-08	2009-10	2010-11	2011-12	2013-14	2015-16
ANDHRA PRADESH	67	75	81	94	106	124	132	144	155	185
Anantapur	26	27	26	38	43	55	62	67	69	96
Chittoor	84	97	98	107	120	136	154	170	171	210
East Godavari	108	122	136	152	171	198	169	190	210	244
Guntur	130	127	144	170	191	200	220	240	235	280
Kadapa	25	24	27	29	32	49	52	53	57	75
Krishna	134	153	168	183	206	240	257	289	311	374
Kurnool	45	55	57	64	72	75	79	80	110	142
Nellore	44	47	49	61	68	81	90	99	117	130
Prakasam	48	47	54	85	95	130	143	154	163	183
Srikakulam	79	88	88	112	126	146	164	178	200	234
Visakhapatnam	56	77	79	92	104	122	125	132	136	141
Vizianagaram	66	75	75	100	113	133	149	163	174	211
West Godavari	140	158	195	174	196	219	243	263	295	339

SOURCE: Estimated from Integrated Sample Survey Reports, Directorate of Animal Husbandry, Govt. of Andhra Pradesh.



District-wise Milk Production Density







PART V : VETERINARY INFRASTRUCTURE AND SERVICE DELIVERY SYSTEM

In Andhra Pradesh, the Animal Husbandry and Fisheries Department oversees the veterinary infrastructure and service delivery system. The department manages about 3,120 Veterinary Institutions. The Government has an online monitoring system of animal husbandry activities for better control.

Extensive vaccination is done for HS, BQ, ET, FMD, Brucella etc which has made Andhra Pradesh the first FMD free State in India.

Under bovine breeding, some 4,300 Artificial Insemination (AI) Centres are operational. During 2015-16, a total of 41.78 lakh AIs were done and 15.50 lakh improved progeny calves were born. In addition, schemes like Ksheerasaagar (Pregnant & Lactating Animal case), Animal Hostel, Suphalan (for infertile animals), Janmabhoomi-Mavooru (Health camps) etc are also undertaken to support dairy farmers.





V.1. Veterinary Infrastructure

TABLE V.1.1: Year-wise & District-wise Veterinary Institutes

Districts	Veterinary Institutes (Number)							
	2000-01	2003-04	2007-08	2008-09	2010-11	2013-14	2014-15	2015-16
ANDHRA PRADESH	2,914	2,916	3,065	3,131	3,130	3,130	3,144	3,120
Anantapur	175	175	183	191	191	191	191	188
Chittoor	301	302	310	324	324	324	324	322
East Godavari	225	225	230	234	234	236	244	243
Guntur	274	275	282	286	286	283	286	284
Kadapa	220	220	242	249	249	249	249	247
Krishna	318	312	316	322	322	324	324	324
Kurnool	322	322	342	344	344	344	344	342
Nellore	201	204	215	218	218	218	218	217
Prakasam	196	197	227	234	234	234	234	231
Srikakulam	183	185	196	198	198	198	198	196
Visakhapatnam	157	157	168	169	168	168	168	165
Vizianagaram	145	145	153	157	157	157	157	155
West Godavari	197	197	201	205	205	204	207	206

SOURCE: Annual Administrative Report Department of Animal Husbandry, Government of Andhra Pradesh and Statistical Abstract, Directorate of Economics and Statistics, Govt. of Andhra Pradesh.

NOTE: Veterinary institutes include polyclinics, veterinary hospitals, mobile dispensaries, rural livestock units and veterinary dispensaries.



V.1. Veterinary Infrastructure

TABLE V.1.2: Year-wise & District-wise AI Centres – Government Agencies

Districts	Number of AI Centers (Number)							
	2000-01	2003-04	2007-08	2008-09	2010-11	2013-14	2014-15	2015-16
ANDHRA PRADESH	2,614	2,911	2,970	2,944	3,079	3,031	2,987	3,043
Anantapur	155	170	178	175	191	188	172	172
Chittoor	287	301	306	306	321	323	320	321
East Godavari	222	246	237	236	239	238	249	248
Guntur	207	271	274	274	276	283	283	284
Kadapa	210	227	228	226	250	247	235	237
Krishna	292	317	318	314	316	321	321	321
Kurnool	242	306	317	316	366	342	322	322
Nellore	194	206	214	212	212	216	214	218
Prakasam	183	224	216	216	214	214	212	222
Srikakulam	172	174	195	180	182	182	183	181
Visakhapatnam	121	136	139	142	166	128	128	166
Vizianagaram	134	135	145	145	144	142	142	143
West Godavari	194	198	203	202	202	207	206	208

SOURCE: Annual Administrative Report, Department of Animal Husbandry, Govt. of Andhra Pradesh and Statistical Abstract, Directorate of Economics and Statistics, Govt. of Andhra Pradesh.



V.1. Veterinary Infrastructure

TABLE V.1.3: Year-wise & District-wise AI Centres – Gopala Mitra

Districts	Number of AI Centres (Number)							
	2000-01	2003-04	2007-08	2008-09	2010-11	2013-14	2014-15	2015-16
ANDHRA PRADESH	730	1,175	1,429	1,973	2,220	2,642	2,624	2,636
Anantapur	12	103	155	202	261	376	368	366
Chittoor	37	37	190	297	303	412	412	412
East Godavari	66	107	143	179	214	245	244	225
Guntur	63	56	46	193	53	76	75	74
Kadapa	46	68	98	51	189	212	212	230
Krishna	62	112	105	200	183	190	191	191
Kurnool	43	98	114	132	202	201	199	193
Nellore	78	145	66	72	87	91	91	109
Prakasam	50	122	93	110	142	170	165	165
Srikakulam	70	89	103	136	152	161	160	161
Visakhapatnam	72	88	114	144	149	168	172	166
Vizianagaram	65	68	107	148	165	155	150	154
West Godavari	66	82	95	109	120	185	185	190

SOURCE: Andhra Pradesh Livestock Development Agency.



V.1. Veterinary Infrastructure

TABLE V.1.4: Year-wise & District-wise AI Centres – Cooperatives

Districts	Number of AI Centers (Number)							
	2000-01	2003-04	2007-08	2008-09	2010-11	2013-14	2014-15	2015-16
ANDHRA PRADESH	213	222	183	183	123	346	397	398
Anantapur	0	1	0	0	0	0	0	0
Chittoor	17	17	0	0	0	6	0	1
East Godavari	0	0	0	0	0	0	0	0
Guntur	120	120	120	120	60	60	60	60
Kadapa	0	0	0	0	0	0	0	0
Krishna	62	62	62	62	62	62	62	62
Kurnool	0	2	0	0	0	1	1	1
Nellore	0	0	0	0	0	0	0	0
Prakasam	14	14	1	1	1	0	0	0
Srikakulam	0	0	0	0	0	40	97	97
Visakhapatnam	0	0	0	0	0	128	128	128
Vizianagaram	0	0	0	0	0	49	49	49
West Godavari	0	6	0	0	0	0	0	0

SOURCE: Andhra Pradesh Livestock Development Agency.



V.1. Veterinary Infrastructure

TABLE V.1.5: Year-wise & District-wise AI Centres – BAIF & JK Trust

Districts	Number of AI Centers (Number)				
	2003-04	2007-08	2008-09	2010-11	2015-16
ANDHRA PRADESH	155	199	195	137	137
Anantapur	55	25	25	0	0
Chittoor	100	0	0	0	0
East Godavari	0	0	0	0	0
Guntur	0	0	0	0	0
Kadapa	0	51	51	51	51
Krishna	0	0	0	0	0
Kurnool	0	15	12	0	0
Nellore	0	44	44	33	33
Prakasam	0	64	63	53	53
Srikakulam	0	0	0	0	0
Visakhapatnam	0	0	0	0	0
Vizianagaram	0	0	0	0	0
West Godavari	0	0	0	0	0

SOURCE: Andhra Pradesh Livestock Development Agency.



V.2. Service Delivery System

TABLE V.2.1: Year-wise & District-wise AI Performed – Cattle

Districts	No. of AI Performed ('000)							
	2000-01	2003-04	2007-08	2008-09	2010-11	2013-14	2014-15	2015-16
ANDHRA PRADESH	817.2	886.3	1,233.4	1,429.5	1,213.8	2,121.3	1,762.8	1,735.5
Anantapur	31.9	53.1	84.3	98.1	67.5	146.1	172.4	172.2
Chittoor	398.0	400.0	506.2	563.5	351.5	556.5	53.6	566.4
East Godavari	66.3	64.9	86.7	100.7	107.4	100.6	104.1	106.2
Guntur	13.1	12.0	18.4	24.3	31.6	30.6	31.5	35.5
Kadapa	8.6	10.8	19.8	42.6	33.4	31.2	569.8	35.5
Krishna	19.4	22.4	31.9	35.8	39.3	40.3	46.3	49.7
Kurnool	9.9	14.1	21.9	28.4	45.3	61.8	30.9	58.0
Nellore	8.5	9.6	19.8	30.7	31.7	19.3	21.7	23.0
Prakasam	4.4	3.4	6.4	6.8	7.1	10.2	12.4	17.5
Srikakulam	105.7	119.5	154.3	168.2	182.3	213.2	222.4	230.3
Visakhapatnam	30.1	49.9	91.0	109.6	132.8	140.7	190.6	156.6
Vizianagaram	68.2	82.0	130.0	148.9	109.3	206.4	212.9	188.8
West Godavari	53.1	44.6	62.7	71.9	74.6	564.4	94.2	95.8

SOURCE: Annual Administrative Report, Department of Animal Husbandry, Government of Andhra Pradesh and Statistical Abstract, Directorate of Economics and Statistics, Govt. of Andhra Pradesh.



V.2. Service Delivery System

TABLE V.2.2: Year-wise & District-wise AI Performed – Buffalo

Districts	No. of AI Performed ('000)							
	2000-01	2003-04	2007-08	2008-09	2010-11	2013-14	2014-15	2015-16
ANDHRA PRADESH	1,356.8	1,582.2	1,918.6	2,280.2	2,043.5	2,260.3	2,284.4	2,437.5
Anantapur	39.0	67.7	85.2	98.2	46.7	89.9	96.4	82.1
Chittoor	38.7	30	23.6	27.7	12.4	20.5	19.3	19.0
East Godavari	197.1	206.5	208.5	228.1	219.2	189.0	197.8	212.7
Guntur	243.6	269.4	322.4	397.1	363.3	393.3	418.3	446.0
Kadapa	49.2	65.9	88.5	108.2	122.7	107.8	99.6	109.0
Krishna	206.7	262.9	334.6	381.6	385.6	376.0	390.7	402.6
Kurnool	76.8	98.3	125.1	163.2	185.3	159.1	172.0	174.6
Nellore	56.4	74.6	108.8	147.1	142.4	170.7	157.1	185.9
Prakasam	120.8	137.8	219.5	275.8	145.5	279.1	297.4	321.0
Srikakulam	18.1	17	13.7	16.3	12.0	7.5	6.0	6.4
Visakhapatnam	55	80.8	86.2	103.3	108.1	162.9	117.3	162.9
Vizianagaram	53.5	63.3	68.2	72.5	40.1	52.8	53.0	55.4
West Godavari	201.9	208	234.3	261.1	260.2	251.7	259.5	259.9

SOURCE: Annual Administrative Report, Department of Animal Husbandry, Government of Andhra Pradesh and Statistical Abstract, Directorate of Economics and Statistics, Govt. of Andhra Pradesh.



V.2. Service Delivery System

TABLE V.2.3: Year-wise & District-wise AI Performed – Bovine

Districts	No. of AI Performed ('000)							
	2000-01	2003-04	2007-08	2008-09	2010-11	2013-14	2014-15	2015-16
ANDHRA PRADESH	2,173.9	2,468.1	3,152.2	3,709.5	3,257.4	4,381.5	4,047.2	4,173.0
Anantapur	70.9	120.8	169.6	196.3	114.2	236.0	268.8	254.3
Chittoor	436.6	429.7	529.9	591.3	363.9	577.0	72.9	585.4
East Godavari	263.4	271.4	295.2	328.7	326.6	289.6	301.9	318.9
Guntur	256.7	281.5	340.9	421.4	394.9	423.9	449.7	481.5
Kadapa	57.8	76.7	108.2	150.8	156.1	139.0	669.4	144.4
Krishna	226.1	285.3	366.5	417.4	424.9	416.3	437.1	452.3
Kurnool	86.7	112.4	147.0	191.6	230.6	220.9	202.9	232.6
Nellore	64.9	84.2	128.6	177.8	174.1	189.9	178.8	208.9
Prakasam	125.2	141.1	225.9	282.5	152.6	289.3	309.8	338.5
Srikakulam	123.8	136.5	168	184.5	194.3	220.7	228.4	236.8
Visakhapatnam	85.1	130.8	177.2	212.8	240.9	303.5	307.9	319.5
Vizianagaram	121.7	145.2	198.2	221.4	149.4	259.3	265.9	244.2
West Godavari	255.0	252.5	297.0	333.0	334.9	816.1	353.7	355.7

SOURCE: Annual Administrative Report, Department of Animal Husbandry, Government of Andhra Pradesh and Statistical Abstract, Directorate of Economics and Statistics, Govt. of Andhra Pradesh.



PART VI : FEED RESOURCES

The Government of Andhra Pradesh identified livestock sector as one of the growth engines for socio-economic development. As the growth of this sector is dependent on the availability of fodder, the Government has enacted a “Fodder Security Policy for Livestock 2015-20”. The policy guarantees procurement of required quantities of certified fodder seeds from the farmer under agreement and also envisages distribution of certified fodder seed on subsidy. The farmers willing to cultivate perennial fodder with micro irrigation facility are supported with 90 per cent subsidy on the drip irrigation system.

The Government is promoting “Silage” production in form of bales, pit silage, power silage, tower silage and bunkers with variable subsidies. To increase silage production various stakeholders including farmers and NGOs are encouraged. Special schemes are launched to promote hydroponics (75 per cent subsidy), Azola (90 per cent subsidy) and fodder blocks. Infrastructural facilities are provided for creation of fodder banks. Goshalas are provided feed and fodder of different categories on subsidized cost to prevent distress.





VI.1. Feed Resources: Availability vs. Requirement

TABLE VI.1.1: Area under Fodder Crops and Gross Sown Area

Districts	Area under Fodder Crops ('000 ha)									Gross Sown Area ('000 ha)								
	2000-01	2003-04	2007-08	2008-09	2009-10	2010-11	2011-12	2013-14	2014-15	2000-01	2003-04	2007-08	2008-09	2009-10	2010-11	2011-12	2013-14	2014-15
ANDHRA PRADESH	107.9	109	170	80.8	70.6	67.1	74.9	60.6	63.7	8,361.5	7,699.5	8,547.6	8,434.7	7,661.5	8,644.5	8,057.5	8,127.9	7,689.9
Anantapur	2.3	3.3	1.6	1.8	2.2	1.1	1.5	2.6	5.4	1,102.9	1,001.9	1,187.9	1,153.6	900.5	1179	1,114.1	1,106.4	942.3
Chittoor	3.6	4.4	5.5	5.6	8.4	8.1	9	9.7	10.3	481.8	390.3	408.5	431.4	404.5	437.6	408.3	417.1	378.8
East Godavari	14.7	15.6	6.3	5.7	3	6.1	3.9	5.6	3.8	764.9	755.9	789.8	739.3	598.2	708.4	636.4	691.6	683.9
Guntur	50	44.7	43	32.4	28.1	22.7	30.9	16.1	16	864.5	766.9	831.6	831.8	795.9	866.5	829.3	862.9	809.7
Kadapa	0.6	0.6	0.9	1.1	1.1	0.7	1.2	1.1	1.9	456.3	440.8	472.3	504.3	472.5	535.6	433	418.9	354.7
Krishna	6.9	9.2	9.4	10.9	7.5	5.6	7.1	5.2	5.1	714.9	611.7	737.8	756.2	716	748.4	726.4	728.5	677
Kurnool	0.6	0.7	1.5	0.9	0.6	0.3	0.7	0.1	0.3	991.8	949.3	1,034.8	993.7	1,006	1,021	962.2	1,001.7	998
Nellore	1.6	2.1	11.1	0.1	0.1	0.1	0.5	0.1	0.5	327.4	306.5	410.5	418	428.9	458.6	448.6	374.2	394.6
Prakasam	25.6	27.6	53.6	20	17.8	21	15.1	17.1	18.1	662.1	597.2	693.3	664.1	627.6	747.6	636.4	688.8	605.2
Srikakulam	0	0	7.6	0	0	0	0	0	0	419.9	411.7	460.2	432.2	404.9	436.2	428.3	414	419.1
Visakhapatnam	0.9	0.5	23.8	0.4	0.2	0.4	0.3	1.6	1.6	441.9	379.5	384.4	379.9	315.4	375.5	360.5	368.9	362.8
Vizianagaram	0	0	3.8	0.1	0	0	0	0	0	436.2	417	429.6	405.6	373.2	402.1	379.2	357.9	372.7
West Godavari	1.1	0.3	1.9	1.8	1.6	1	4.7	1.4	0.7	696.9	670.8	706.9	724.6	617.9	728	694.8	697	691.1

Zero indicate either nil or negligible.

SOURCE: Directorate of Economics and Statistics, Department of Agriculture and Cooperation, Ministry of Agriculture and Farmers Welfare, Govt. of India.



VI.1. Feed Resources: Availability vs. Requirement

TABLE VI.1.2: District-wise Dry Matter Availability, Requirement and Balance

Districts	Parameter	Dry Matter Availability, Requirement and Balance ('000 MT)						
		1997	2003	2007	2008	2009	2010	2011
Anantapur	Availability	1,246.0	1,672.8	1,276.9	3,986.4	1,490.0	1,800.8	1,783.2
	Requirement	3,127.4	3,317.7	4,460.7	4,312.4	4,178.2	4,057.0	3,947.5
	Balance	-1,881.4	-1,644.9	-3,183.8	-325.9	-2,688.2	-2,256.2	-2,164.3
Chittoor	Availability	1,474.3	1,111.6	1,174.0	1,645.2	1,229.9	1,252.2	1,283.7
	Requirement	2,648.5	2,758.0	4,299.3	4,222.4	4,175.5	4,153.8	4,153.8
	Balance	-1,174.2	-1,646.4	-3,125.2	-2,577.2	-2,945.6	-2,901.7	-2,870.1
East Godavari	Availability	1,927.3	2,103.5	2,662.2	2,765.1	2,761.2	2,205.2	2,475.1
	Requirement	2,235.6	2,459.0	3,756.6	4,161.3	4,651.9	5,238.3	5,933.6
	Balance	-308.3	-355.4	-1,094.4	-1,396.3	-1,890.7	-3,033.1	-3,459.0
Guntur	Availability	2,065.9	1,816.6	2,787.6	3,592.6	4,864.4	3,607.9	3,812.4
	Requirement	3,221.4	3,518.7	4,612.3	5,191.7	5,905.2	6,767.6	7,798.5
	Balance	-1,155.5	-1,702.1	-1,824.7	-1,599.2	-1,040.8	-3,159.7	-3,986.1
Kadapa	Availability	840.6	805.5	1,023.9	1,126.5	1,174.6	1,286.5	1,347.9
	Requirement	3,047.7	3,458.6	3,877.4	3,942.7	3,985.7	4,025.7	4,112.6
	Balance	-2,207.1	-2,653.2	-2,853.5	-2,816.2	-2,811.1	-2,739.2	-2,764.7
Krishna	Availability	1,704.7	1,869.1	2,144.5	2,742.2	3,140.7	2,742.0	3,245.3
	Requirement	1,984.5	2,027.8	3,520.7	4,148.4	4,950.4	5,966.3	6,754.6
	Balance	-279.8	-158.8	-1,376.2	-1,406.2	-1,809.7	-3,224.3	-3,509.3
Kurnool	Availability	1,039.2	1,897.1	2,347.4	3,494.0	2,960.9	2,628.7	2,786.5
	Requirement	1,897.6	2,277.3	3,575.7	3,659.7	3,773.0	3,918.2	4,100.0
	Balance	-858.4	-380.2	-1,228.3	-165.7	-812.1	-1,289.4	-1,313.5
Nellore	Availability	1,004.3	1,442.6	1,756.4	1,732.2	1,904.8	1,894.1	1,987.6
	Requirement	1,986.7	2,566.2	3,166.7	3,330.8	3,517.8	3,731.4	3,976.1
	Balance	-982.4	-1,123.6	-1,410.3	-1,598.6	-1,613.0	-1,837.3	-1,988.5
Prakasam	Availability	968.4	1,156.7	1,724.0	1,854.7	1,839.0	1,870.2	1,963.4
	Requirement	206.5	3,381.1	4,858.2	5,656.0	6,691.6	8,012.0	8,432.7
	Balance	761.9	-2,224.4	-3,134.1	-3,801.3	-4,852.6	-6,141.9	-6,469.3
Srikakulam	Availability	543.9	733.0	1,151.4	1,336.2	1,038.8	1,073.5	1,120.8
	Requirement	2,364.4	2,717.6	2,576.9	2,648.1	2,776.3	2,959.4	3,198.6
	Balance	-1,820.5	-1,984.6	-1,425.5	-1,311.9	-1,737.5	-1,885.9	-2,077.8
Vishakhapatnam	Availability	362.7	760.3	961.5	1,005.3	931.8	761.9	876.7
	Requirement	2,976.5	3,875.6	3,099.7	2,957.2	2,864.7	2,819.3	2,987.6
	Balance	-2,613.8	-3,115.3	-2,138.2	-1,951.8	-1,932.9	-2,057.4	-2,110.9
Vizianagaram	Availability	530.6	642.7	974.1	1,113.7	1,016.6	927.5	1,241.8
	Requirement	125.7	187.1	2,090.1	2,092.2	2,094.5	2,096.8	2,099.4
	Balance	404.6	455.5	-1,116.0	-978.5	-1,077.8	-1,169.3	-857.6
West Godavari	Availability	1,900.6	2,428.8	3,169.1	3,379.9	3,677.7	2,863.3	3,045.3
	Requirement	2,219.8	2,886.1	3,241.6	3,475.4	3,753.5	4,074.8	4,440.2
	Balance	-319.2	-457.2	-72.5	-95.5	-75.8	-1,211.5	-1,394.9

SOURCE: Feedbase 2012, National Institute of Animal Nutrition and Physiology, Bengaluru.



VI.1. Feed Resources: Availability vs. Requirement

TABLE VI.1.3: Availability, Requirement and Surplus/Deficit of Feed Nutrient

Year	Dry Matter ('000 MT)		
	Availability	Requirement	Surplus/Deficit
1997	15,608	28,042	-12,434
2003	18,440	35,431	-16,991
2007	23,153	47,136	-23,983
2008	29,774	49,798	-20,024
2009	28,030	53,318	-25,288
2010	24,914	57,821	-32,907
2011	26,970	61,935	-34,965

SOURCE: Feedbase 2012, National Institute of Animal Nutrition and Physiology, Bengaluru.







PART VII : AGRICULTURE

Agriculture & Allied Sectors is the key sector which is supporting about 62 per cent of the population in Andhra Pradesh. Despite deficit rainfall and depleted ground water levels, the agriculture including horticulture has registered a growth rate of above 9 per cent during 2016-17. In particular, the 'Horticulture' sub sector registered an impressive growth of above 16 per cent due to support for Sprinklers, Drip Irrigation, Polynets/ Shadenets, Panta Sanjeevini and Panta Raksha.

The State Government is fully using information and communication technologies like online D-Krishi for seed distribution, online soil health card generation, online crop booking, village action plan survey etc. It is using extension and guidance from knowledge partners like ICRISAT for helping the farming community to increase income.





VII.1. Land Use Pattern

TABLE VII.1.1: Andhra Pradesh's Agro-Climatic Zones

Sl. No	Name of the zone	Districts	Rainfall	Temperature	Soil type	Crop grown
1	North coastal zone	Srikakulam, Vizianagaram, Visakhapatnam	South-west monsoon 1,000-1,100 mm	Max. 29-42° C Min. 18-27° C	Red soils with clay base, pockets of acidic soils, laterite soils with PH 4-5.	Rice, groundnut, mesta, jute, sunhemp, seasmum, sorghum, pearl millet, blackgram and horticultural crops
2	Godavari zone	East Godavari, West Godavari	South-west monsoon 800-1,100 mm	Max. 29-42° C Min. 16-24° C	Deltaic alluvium, red soils with clay, black cotton soils, red loams, coastal sands and saline soils	Rice, groundnut, sorghum, pearl millet, tobacco, cotton, chilli, sugarcane and horticultural crops
3	Krishna zone	Krishna, Guntur, Prakasam	South-west monsoon 800-1,100 mm	Max. 29-42° C Min. 16-24° C	Deltaic alluvium, red soils with clay, black cotton soils, red loams, coastal sands and saline soils	Rice, groundnut, sorghum, pearl millet, tobacco, cotton, chilli, sugarcane and horticultural crops
4	Southern zone	Chittoor, Kadapa, Nellore	South-west monsoon 700-1,000 mm	Max. 28-40° C Min. 13-27° C	Red loamy soils, shallow to moderately deep	Rice, groundnut, cotton, sugarcane, millets and horticultural crops
5	Scarce rainfall zone	Kurnool, Anantapur	South-west monsoon 500-750 mm	Max. 32-40° C Min. 13-28° C	Red earths with loamy soils, red sandy soils and black cotton soils in pockets	Cotton, sorghum, millets, groundnut, pulses and rice
6	High altitude & tribal areas zone	High altitude & tribal areas of Srikakulam, Visakhapatnam, East Godavari districts	South-west monsoon >1,400 mm	Max. 17-35° C Min. 6-24° C	Hill slopes, undulating transported soils	Horticultural crops, millets, pulses, chilly, turmeric and pepper

SOURCE: Department of Agriculture, Govt. of Andhra Pradesh.





VII.1. Land Use Pattern

TABLE VII.1.2: District-wise Land Use Pattern

(’000 ha)

Districts	Reporting Area		Forest Area		PPGL		Fallow Land		Net sown area	
	2000-01	2014-15	2000-01	2014-15	2000-01	2014-15	2000-01	2014-15	2000-01	2014-15
ANDHRA PRADESH	15,962.7	16,276.3	3,454.0	3,663.3	330.0	213.7	1,435.6	2,259.8	6,683.0	6,236.1
Anantapur	1,913.5	1,913.0	196.8	197.0	23.3	5.8	219.1	447.3	1,054.6	888.4
Chittoor	1,498.8	1,515.1	451.3	452.0	36.5	33.5	206.5	303.5	432.6	336.8
East Godavari	1,081.8	1,260.2	323.1	441.3	24.8	22.0	62.6	96.1	439.8	435.4
Guntur	1,132.8	1,139.1	161.9	161.9	24.3	16.5	35.6	93.4	635.4	623.8
Kadapa	1,537.8	1,535.9	505.5	501.0	15.6	9.0	131.2	261.1	401.8	308.3
Krishna	879.7	872.7	66.4	76.2	12.1	10.7	52.1	79.4	473.3	485.6
Kurnool	1,760.0	1,765.8	318.3	340.7	4.1	3.2	258.2	188.3	897.5	916.0
Prakasam	1,714.1	1,762.6	442.5	459.3	66.4	55.9	216.4	259.2	610.5	587.3
Nellore	1,316.0	1,307.6	246.4	271.9	100.0	34.8	134.6	224.7	299.8	335.1
Srikakulam	584.3	583.7	70.8	68.6	0.9	0.9	40.5	51.1	327.8	304.3
Visakhapatnam	1,134.3	1,116.1	477.8	441.2	3.0	2.7	26.6	108.7	348.7	280.0
Vizianagaram	630.0	653.9	112.0	119.3	4.9	5.2	19.8	97.1	328.2	266.7
West Godavari	779.5	850.7	81.2	132.9	14.0	13.4	32.3	50.0	432.9	468.3

Zero indicates either nil or negligible.

SOURCE: Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Govt. of India.



VII.2. Area and Production

TABLE VII.2.1: District-wise Area and Production – Cereals and Pulses

Districts	Cereals						Pulses					
	Area ('000 ha)			Production ('000 MT)			Area ('000 ha)			Production ('000 MT)		
	*2010-14	2014-15	2015-16	*2010-14	2014-15	2015-16	*2010-14	2014-15	2015-16	*2010-14	2014-15	2015-16
ANDHRA PRADESH	3,017	2,921	2,687	10,009	10,826	13,149	1,283	1,042	1,449	1,028	949	1,229
Anantapur	94	73	98	240	167	232	145	122	177	75	53	58
Chittoor	65	52	100	200	157	527	20	20	25	8	10	12
East Godavari	399	410	395	1,270	1,666	2,274	54	40	52	15	19	25
Guntur	382	372	212	1,738	1,877	1,101	107	94	139	114	122	160
Kadapa	74	68	77	180	217	247	115	89	129	85	55	122
Krishna	340	314	241	1,239	1,163	1,229	156	146	158	132	163	193
Kurnool	242	241	200	762	780	562	279	203	292	263	233	215
Nellore	254	245	291	1,011	981	1,945	47	37	66	35	35	37
Prakasam	168	149	84	607	572	370	183	125	231	204	157	288
Srikakulam	221	227	225	427	532	795	81	81	75	45	43	46
Visakhapatnam	159	146	143	236	226	388	24	28	29	17	22	18
Vizianagaram	152	158	163	407	493	745	44	39	47	21	22	28
West Godavari	466	465	460	1,691	1,995	2,735	26	19	28	14	15	28

*Average from 2010-11 to 2013-14.
Zero denotes either nil or negligible.

SOURCE: Directorate of Economics and Statistics, Govt. of Andhra Pradesh.



VII.2. Area and Production

TABLE VII.2.2: District-wise Area and Production – Food Grains and Oilseeds

Districts	Food Grains						Oilseeds					
	Area ('000 ha)			Production ('000 MT)			Area ('000 ha)			Production ('000 MT)		
	*2010-14	2014-15	2015-16	*2010-14	2014-15	2015-16	*2010-14	2014-15	2015-16	*2010-14	2014-15	2015-16
ANDHRA PRADESH	4,300	3,963	4,136	11,037	11,775	14,378	1,689	1,237	1,100	2,086	1,904	2,180
Anantapur	240	195	274	316	220	290	796	586	486	352	182	366
Chittoor	86	72	125	207	167	539	159	137	131	156	98	165
East Godavari	453	450	447	1,285	1,685	2,299	60	63	66	183	188	231
Guntur	489	467	351	1,851	1,999	1,261	14	9	9	21	24	13
Kadapa	189	157	206	265	273	369	147	60	67	109	45	97
Krishna	496	460	398	1,371	1,325	1,422	13	12	14	92	133	146
Kurnool	521	444	492	1,025	1,013	778	263	161	128	191	137	114
Nellore	301	282	357	1,046	1,016	1,982	21	17	15	53	45	48
Prakasam	351	275	315	811	729	657	48	31	24	43	26	28
Srikakulam	302	307	300	473	575	841	43	31	29	38	25	20
Visakhapatnam	184	174	172	252	248	406	27	26	25	43	54	58
Vizianagaram	196	197	210	428	514	773	40	41	30	92	145	118
West Godavari	492	483	489	1,705	2,010	2,762	59	62	78	713	802	777

*Average from 2010-11 to 2013-14.
Zero denotes either nil or negligible.

SOURCE: Directorate of Economics and Statistics, Govt. of Andhra Pradesh.



VII.2. Area and Production

TABLE VII.2.3: District-wise Area and Production – Sugarcane

Districts	Sugarcane					
	Area ('000 ha)			Production ('000 MT)		
	2010-14*	2014-15	2015-16	2010-14*	2014-15	2015-16
ANDHRA PRADESH	281	253	212	11,411	10,003	9,353
Anantapur	0	0	0	23	2	6
Chittoor	54	47	39	2,486	2,067	1,682
East Godavari	25	23	22	1,108	1,056	1,038
Guntur	1	1	1	69	46	34
Kadapa	1	1	0	58	31	19
Krishna	31	31	25	1,183	1,401	1,492
Kurnool	2	1	1	122	83	96
Nellore	16	7	3	856	394	196
Prakasam	1	1	1	41	65	50
Srikakulam	10	12	11	429	436	474
Visakhapatnam	66	69	60	1,653	1,814	2,012
Vizianagaram	26	27	24	1,022	875	885
West Godavari	47	34	24	2,361	1,732	1,370

*Average from 2010-11 to 2013-14.
Zero denotes either nil or negligible.

SOURCE: Directorate of Economics and Statistics, Govt. of Andhra Pradesh.



VII.3. Land Holding and Water Resources

TABLE VII.3.1: Operational Land Holdings in Andhra Pradesh – 2010-11

Size of Holding	Total Holdings		Average Size of Holding (ha)
	Number ('000)	Area ('000 ha)	
Marginal	4,983.6	2,160.4	0.43
Small	1,591.0	2,250.6	1.41
Semi-medium	796.2	2,099.8	2.64
Medium	230.4	1,282.0	5.56
Large	19.9	303.7	15.28
All Classes	7,621.1	8,096.4	1.06

SOURCE: Directorate of Economics and Statistics, Govt. of Andhra Pradesh.

TABLE VII.3.2: Net Irrigated Area under Different Sources of Irrigation

('000 ha)

Particulars	2000-01	2003-04	2007-08	2010-11	2011-12	2012-13	2013-14	2014-15
Net Irrigated Area	2,845	2,327	2,895	3,030	3,105	2,801	3,014	2,927
Net Sown Area	6,683	6,161	6,699	6,694	6,561	6,463	6,448	6,236
Gross Sown Area	8,362	7,700	8,548	8,644	8,058	7,960	8,128	7,690
Sources (net irrigated area)								
Canals	1,349	1,001	1,387	1,431	1,493	1,175	1,430	1,429
Tanks	457	301	423	412	367	346	340	293
Wells and Tube Wells	902	927	973	1,066	1,122	1,158	1,120	1,080
Other Sources	137	99	111	121	124	122	124	125

SOURCE: Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Govt. of India.



VII.3. Land Holding and Water Resources

TABLE VII.3.3: Major River Basins of Andhra Pradesh

Name of the River	Origin	Length (km)	Catchment Area (sq km)	States Falling in the Catchment Area
Godavari	Nasik (Maharashtra)	1,465	312,812	Maharashtra, Andhra Pradesh, Madhya Pradesh, Odisha and Pondicherry
Krishna	Mahabaleshwar (Maharashtra)	1,401	258,948	Maharashtra, Andhra Pradesh and Karnataka
Pennar	Kolar (Karnataka)	597	55,213	Andhra Pradesh and Karnataka

SOURCE: Hydrology and Water Resources Information System for India, National Institute of Hydrology, Roorkee.

TABLE VII.3.4: Medium River Basins of Andhra Pradesh

Name of the River	Origin	State	Length (km)	Catchment Area (sq. km)
Sarda	Vishakhapatnam	Andhra Pradesh	104	2,725
Eleru	Vishakhapatnam	Andhra Pradesh	125	3,809
Vogarivagu	Guntur	Andhra Pradesh	102	1,348
Gundlakamma	Kurnool	Andhra Pradesh	220	8,494
Musi	Nellore	Andhra Pradesh	112	2,219
Paleru	Nellore	Andhra Pradesh	104	2,483
Muneru	Nellore	Andhra Pradesh	122	3,734
Kandleru	Vinukonda	Andhra Pradesh	73	3,534

SOURCE: Hydrology and Water Resources Information System for India, National Institute of Hydrology, Roorkee.





VII.4. Rainfall

TABLE VII.4.1: District- wise Average Annual Rainfall

(mm)

District	2012	2013	2014	2015	2016
ANDHRA PRADESH	1,068	981	744	975	846
Anantapur	536	502	438	709	394
Chittoor	1,003	856	600	1,419	664
East Godavari	1,445	1,120	636	1,099	1,092
Guntur	1,013	1,162	681	714	965
Kadapa	558	689	433	1,013	591
Krishna	1,510	1,317	623	945	1,017
Kurnool	609	703	629	470	606
Nellore	911	872	705	1,385	594
Prakasam	886	986	497	634	550
Srikakulam	1,289	1,422	1,274	952	1,100
Vishakhapatnam	1,218	1,083	1,093	1,210	1,119
Vizianagaram	1,297	1,028	1,204	1,072	1,151
West Godavari	1,612	1,006	861	1,054	1,149

SOURCE: Customized Rainfall Information System, India Meteorological Department.





VII.4. Rainfall

TABLE VII.4.2: Distribution of Mandals according to ground water status

Districts	Number of Mandals under									
	Semi-Critical			Critical			Over-exploited			Saline
	2004	2009	2013	2004	2009	2013	2004	2009	2013	2013
ANDHRA PRADESH	76	48	54	35	12	17	112	46	61	41
Anantapur	9	20	10	12	5	7	28	19	31	
Chittoor	11	9	18	9	7	7	18	13	12	
East Godavari	6	2					11			10
Guntur			1				2		2	3
Kadapa	18	13	14	4		2	17	4	6	
Krishna	4		1	2				2	1	13
Kurnool	4		5	1			12			
Prakasam	8	3	2	1		1	11	7	7	1
Spsr Nellore	8			2			3			
Srikakulam		1	1					1	2	
Visakhapatnam	1									
Vizianagaram	3									
West Godavari	4		2	4			10			14

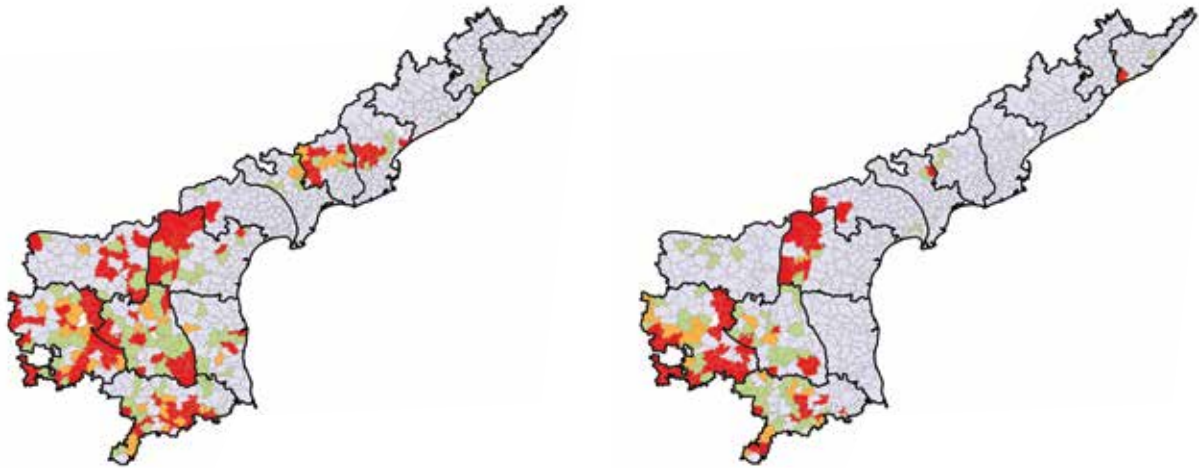
SOURCE: Dynamic Ground Water Resources of India (2004-2013), Central Ground Water Board, Ministry of Water Resources, River Development & Ganga Rejuvenation, Govt. of India.



Groundwater Status in Andhra Pradesh

2004

2013



Safe Semi-critical Critical Over-exploited



PART VIII : POLICIES AND SCHEMES FOR DAIRY DEVELOPMENT IN ANDHRA PRADESH

The "Animal Husbandry Department" was established in the year 1920 with the name "Civil Veterinary Department" in erstwhile Hyderabad State. In the Composite Madras State the Department was attached to Agriculture Department and a separate department named as "Civil Veterinary Department" dealing with Animal Husbandry Activities came into existence subsequently.

Andhra Pradesh State was formed on 1st November, 1956 by merging Districts of Telangana Region of Hyderabad State, with Andhra State which was formed on 1st of October, 1953 by partitioning from the composite Madras State.

Hence the origin and development of the Department in Andhra Pradesh relates to the origin and development of the Animal Husbandry Departments of both Andhra and Hyderabad States. The Name of Civil Veterinary Department has been changed as Animal Husbandry Department in the year 1948 with the main objective of treatment and prevention of diseases in livestock. Initially the emphasis was on health care only but subsequently several schemes have been taken up for overall growth of livestock sector.

The Department of Animal Husbandry is working towards health of livestock and increased production of milk, meat etc, is headed by Director and each of thirteen district is headed by the Joint Director. There are three frozen semen stations and 3,130 veterinary institutions.

Andhra Pradesh Livestock Development Agency (APLDA) To implement a massive programme of restructuring of Breeding Operations in cattle in the State under the project National Project for Cattle and Buffalo Breeding (NPCBB), the State Government, with financial assistance from Govt. of India has established Andhra Pradesh Livestock Development Agency (APLDA) during April 2000.

The Executive Committee (EC) of APLDA is delegated with all powers for running the organization. The EC is headed by the Chairman, presently the Principal Secretary to Govt., AH, DD & F Dept., AP, Guntur is discharging the functions as Chairman. The Executive Committee consists of 20 members.

The APLDA with 13 Area Livestock Development Associations (ALDAs) at district level, is functioning to carry out the Cattle and Buffalo Breeding Operations in the state.





The various schemes are :

A. Central Assistance to State Development Schemes

SI No	Scheme	Details
1	National Livestock Health & Disease Control Programme This is a centrally sponsored scheme with funding pattern of 75:25 as CS:SS.	
	a. Assistance to States for control of Animal Disease	It aims to control of animal livestock disease through mass vaccination and diagnosis of disease.
	b. National Project on Rinderpest Eradication(NPRE)	Maintain required vigil to sustain the State's freedom from Rinderpest (zero incidence)
	c. National Control Programme on Brucellosis (NCPB)	Prevention of zoonotic disease Brucellosis
	d. Foot and Mouth Disease Control Programme (FMDCP)	It is meant to protect the livestock against foot and mouth disease
	e. National Animal Disease Report System (NADRS)	For prompt intimate animal disease information for preventive and curative action in a timely and speedy manner
2	National Livestock Management Programme	The objective of the scheme is to achieve quantitative and qualitative improvement in livestock production systems and capacity building.
3	National Plan for Dairy Development	Infrastructure development of cooperative dairy societies with the intention to increase dairy farmers income
4	Livestock census	Collate number of animals for different programmes and use it for development of the state.
5	National Mission on Bovine Productivity	
	a. Pashu Sanjivini	Provide Animal Health card to facilitate doorstep treatment to dairy farmers.
	b. Advance reproductive technique	To purchase and provide semen doses on 50 per cent subsidy to get more number of elite female stock to enhance milk production
	c. Creation of E Pashu Haat	Create and develop E-market for purchase and sale of dairy animals.
6	National Kamadhenu Breeding Centre (NKBC) at Chintaladevi, SPSR Nellore district	The objective is to conserve the germ plasm of indigenous animals in the country through maintenance of indigenous animal farm, R&D and by providing training to the field staff and farmers.

B. State Development Schemes:

SI No	Scheme	Details
1	Artificial Insemination Centres (Cattle & Buffalo Breed Development)	
	a. New AI centers	This scheme is meant for expansion of breeding operations involving NGOs with experience in implementation of livestock projects. Integrated livestock development centers will be established in uncovered areas where there are no facilities established for breeding operations.
	b. Promotion of indigenous breeds	In this scheme a breed improvement activity will be taken up for conservation of desi cows and promotion of sustainable Organic farming. ₹ 10,000/- per animal is provided towards transportation and insurance premium for indigenous animals.
	c. Interest subsidy for new dairy farmers	It is designed to promote entrepreneurs in dairy farming. Interest subsidy provided over and above 3 per cent charged by banks.
	d. Sexed semen/sexed semen lab / ET lab	This scheme is implemented by APLDA. Procurement of sexed semen and produce additional female calves are part of the scheme. Fund also used for import of superior quality embryos and training of staff. Subsidy on each dose of sexed semen is 75 per cent and remaining is borne by the beneficiary.
	e. Performance based incentives to Gopala Mitras	In this scheme the fund will be utilized to extend performance based Incentive to the Gopala Mitras.
2	Feed and Fodder Development	
	a. Promotion of silage	To ensure availability of nutritious green fodder to the livestock throughout the year, Department will promote silage production activity in the form of bales/pit silage/tower silo/bunkers etc.
	b. Hydroponics & Azolla	The Hydroponics technology will be promoted to produce green fodder where there is constraint for land to grow fodder. Seventy five percent subsidy for Hydroponics and 90 percent subsidy for Azolla units will be extended to the beneficiaries.



SI No	Scheme	Details
	c. TMR fodder blocks	To enable farmers to get access to the balanced / complete ration for the animals in the form of blocks.
	d. Convergence with MGNREGS to match for material cost	To promote large scale fodder production in convergence with Rural Development Department. Department will provide matching funds of material component over and above 40 per cent material cost involved under MGNREGS.
	e. RBP	To create awareness amongst the milk producers for optimization of milk production by efficient use of locally available feeding resources. The fund utilized to equip the resource persons with required tools and also to offer performance base incentive of ₹ 50/- per animal.
	f. Fodder seed supply	Supply of improved fodder seeds to the farmers to take up large scale fodder production on 75 per cent subsidy.
	g. Fodder banks	Storage facilities for fodder will be created in strategic locations to supply during scarcity periods.
	h. Feed/fodder/Other inputs	The aim of the scheme is to supply of feed and fodder of different categories to the farmers/Goshalas on subsidy basis. Preference will be given for supply of high quality nutritious Silage @ ₹ 2 per kg, dry fodder @ ₹ 3/- per kg and ₹ 3.50 per Kg TMR fodder blocks and ₹ 4/- per kg concentrates.
	i. Oorura Pasugraasa Kshetralu (OPGK)	To promote the availability of green fodder in villages throughout the year.
	j. Mega Pasugraasa Kshetralu (MPGK)	To promote the availability of green fodder at the farmers doorstep through entrepreneur @ ₹ 1 per kg.
	k. KutumbaVikasam/SamajaVikasam	Supply of feed / fodder /other inputs to farmers at village level on subsidy through LRPs (Gopala Mitras/Pasumitra/Jeevamitra)
3	Implementation of Livestock Development Programme (Management/Health)	
	a. Pregnant and Lactating Animal care (Ksheerasagara)	This scheme is designed to reduce calving period in milch animals and to increase life time milk production. Feed, fodder, healthcare and insurance support including other logistics will be given for six months (last 3 months of pregnancy and first 3 months of lactation).
	b. Animal hostel	To create basic infrastructure facilities needed for integration of dairy activity with biogas production, vermi-compost, value addition to milk etc.,
	c. Suphalam	Aim is to get one calf once in 15-18 months from milch animals / heifers through fertility Management of infertile animals. One village will be adopted by the field functionaries where the incidence of infertility problem is high to tackle infertility. Identified animals will be treated under the supervision of a graduate veterinarian till the animal is conceived or advised for culling.
	d. Organization of Janmabhoomi -Mavooru Programme	Animal health camps will be conducted which covers deworming, vaccinations, fertility management, treatment of sick animals, technology transfer, capacity building, plantation of fodder trees in all possible locations.
	e. Mobile veterinary services in PPP model	It will be implemented involving entrepreneurs / NGO / any other agency in PPP model.
	f. Livestock insurance	To facilitate more participation of the farmers and stimulate further growth in the dairy sector by providing subsidy.
4	Infrastructure/Processing in Dairy Sector	
	a. BMCU in potential villages	Fund will be used to establish BMCU in potential villages involving APDDCF/Private Dairies /SERP/FPO to increase the self-life of the milk and to minimize the losses to milk producers and promote clean milk production.
	b. Milk processing units	Fund will be used to establish milk processing units in uncovered areas involving APDDCF/Private Dairies /SERP/FPO or involving entrepreneurs to promote local sales.
	c. Support to farmer producer Organization(FPO)	To promote formation of Farmer Interest Groups (FIG) and FPO. The grant is used to provide assistance towards technical input, infrastructure support and consultancy services to establish market linkages.
	d. Milk market outlet	To establish milk outlets involving APDDCF/Private Dairies/Dairy unions / SERP / FPO or involving entrepreneurs to promote marketing of milk and milk products.





Sl No	Scheme	Details
5	Calf rearing programme	To develop replacement of breeding stock within the state instead of animal induction, reduce the age at first conception in female cattle. Elite female calves at the age of 4-6 months will be enrolled in the first year of the programme and support will be given for feed and fodder, health care and other support activities for a period of 24 months or till the date of calving whichever earlier. The support will be extended on 75 per cent subsidy, whereas for logistics, data entry will be on 100 per cent subsidy.
6	Vaccine production/purchase/testing/disease control	
	Vaccine production/purchase/testing/disease control	Funds towards preventive and curative health care to the livestock.
7	Strengthening of Hospitals and Dispensaries and capacity building	
	a. Strengthening of database and networking of all Veterinary Institutions	Funds will be utilised to strengthen the software applications required for effective implementation of schemes, online monitoring, real time data entry etc,. Funds will also be utilised to strengthen the office automation at veterinary Institutions/ administrative offices.
	b. Capacity building – Training of farmers/field staff, Support to Training centres	Training will be organised to livestock farmers at village / Mandal / district level on latest animal husbandry practices. This training will be conducted by department in convergence mode with AP state Skill Development Corporation / reputed NGOs.
	c. Consultancy on preparation of DPRs & Administration cost, engaging consultants	Funds will be utilised to meet the expenses towards preparation of DPR on scientific lines for the new approved scheme of documents under PPP project by the consultants experts engage for the purpose. Preparation of estimates type designs for Civil works under different schemes and for midterm proposed project appraisal, impact assessment and evaluation studies of the project implemented.
8	Establishment of Para Veterinary and Allied Board/ Council	Funds will be utilised for establishment of Para veterinary and allied Board / Council and its maintenance.
9	Infrastructure support to field veterinary institutions	To provide infrastructure support for construction of new buildings to the veterinary institutions funds also be utilised for purchase of furniture and equipment to the Institutions.
10	Integrated Livestock Management (Scheduled Caste sub Plan)	
	a. Calf rearing programme (Sunandini)	To develop replacement of breeding stock within the state instead of animal induction, reduce the age at first conception in female cattle. Elite female calves at the age of 4-6 months will be enrolled in the first year of the programme and support will be given for feed and fodder, health care and other support activities for a period of 24 months or till the date of calving whichever earlier. These support will be extended on 75 per cent subsidy, whereas for logistics, data entry will be on 100 per cent subsidy.
	b. Ongole male calf rearing programme	Rearing of Ongole male calves will generate income for SC farmers by direct selling for utilizing in agriculture and cart pulling. Each beneficiaries will be permitted up to two calves only. Male calves at the age of approximately 4 months will be selected and growth will be monitored by measuring height, weight and girth. Support will be given for feed, fodder health care and other support activities for 24 months.
	c. Pregnant and lactating animal care	Designed to reduce inter calving period in milch animals and to increase the life time production.
	d. Heifer induction and rearing programmes	Designed to develop replacement of breeding stock through heifer induction followed by rearing support.
	e. Feeding support to animals owned by SCs	This scheme is to provide feed and fodder support to maintain nutritional status of annuals and improve disease resistance.
	f. Fertility Management of animals owned by SCs	This is a scheme which organizes fertility camps in SC localities to take care of reproductive healthcare of animals.
11	Integrated Livestock Management (Tribal sub plan)	
	a. Integrated livestock development centers	To generate supplementary income to the tribal farmers through cattle rearing.
	b. Integrated Mini dairy complexes	To establish dairy complexes of indigenous breed nearer to Ashram schools/residential schools in tribal areas and to assist with support services with 100% funding from the scheme.
	c. Fertility Management of animals owned by STs	Organize fertility camps in ST localities to take care of reproductive healthcare / maintain ideal service period after calving.





GLOSSARY

AI	: Artificial Insemination is the process of deliberate introduction of sperm into the female reproductive tract for impregnation.
Bovine	: Large ruminants like cattle, buffaloes, yak and mithun.
Breedable	: Female animals that have attained the age of puberty.
Breeding Tract	: Area where breeds/group of animals are found.
Calving Interval	: Period between two calvings.
Castration	: Technique by which males are made sterile for use in draught operations.
Crossbred	: Animal produced by hybridization of two different breeds.
DM	: Dry biomass available from feed and fodder.
Dry Animal	: Adult animals calved at least once but not in-milk at present.
Food Grains	: Cereals and pulses.
GSDP	: Basic measure of a State's overall economic performance. It represents the market value of all final goods and services made within the borders of a State in a year.
Indigenous Animals	: Animals native to a particular area.
In-milk Animals	: Animals which are lactating.
Lactation Length	: Number of days the animal secretes milk.
Lactation Yield	: Total milk production over period of 300/305 days.
Literacy Rate	: Percentage of literates in the age group above six years.
Livestock	: Domesticated mammals.
Male to Female Ratio	: Number of males to females.
Milch Animals	: Sum of in-milk and dry animals.
Milk Utilisation Pattern	: Quantities of milk retained for home consumption in liquid form, retained for product conversion and milk sold by the milk producers.
Marginal Holdings	: Farmers possessing less than one hectare of operational holding.
Small Holdings	: Greater than one hectare and less than two hectare of operational holding.
Semi Medium	: Greater than two and less than four hectare of operational holding.
Medium Holdings	: Are more than four and less than ten hectare of operational holding.
Large Holdings	: Are those larger than ten hectare of operational holding.
Population Density	: Number of human beings/animals per square km of geographical area.
Poultry	: All categories of chicken, guinea fowls, turkey, ducks and quails.
Sex Ratio	: Number of females to 1,000 males in a population.
Small Ruminants	: Sum of sheep and goats.
Urbanisation	: Per cent of urban population to total population.
Wet to Dry Ratio	: Number of in-milk to dry animals.



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