



## PART VI: FEED RESOURCES

As against the estimated animals' requirements, feed resources available in Gujarat are lower. In the last decade (2003 to 2011), shortage of Dry Matter in the State reduced from 137 per cent of the requirement to 66 per cent; Total Digestible Nutrients from 200 per cent to 73 per cent while the Crude Protein availability increased from -98 per cent to a surplus of 19 per cent.

Eleven cattle feed factories, in the cooperative sector and spread across the State, produced about 2.6 million tonnes of concentrated cattle feed for bovines during 2012-13 and was sold at prices ranging from Rs. 11.9 to 14.3 a kg. The usage of concentrate increased from 2.1 kg to 2.7 kg per in-milk cattle, while for buffaloes, it declined from 3.0 kg to 2.7 kg during the same period.

Green fodder is a comparatively economical source of nutrients. However, the availability of green fodder is lower than estimated requirement. In Gujarat, the area under fodder crop has fallen from 10.5 to 7 per cent of the gross sown area over the last eight years.





**TABLE VI.1: Area under Fodder Crops**

Districts	Area under Fodder Crops ('000 ha)						Gross Sown Area ('000 ha)					
	2000-01	2003-04	2004-05	2005-06	2006-07	2007-08	2000-01	2003-04	2004-05	2005-06	2006-07	2007-08
<b>GUJARAT</b>	<b>1,099</b>	<b>1,081</b>	<b>1,029</b>	<b>959</b>	<b>901</b>	<b>850</b>	<b>10,497</b>	<b>11,421</b>	<b>11,257</b>	<b>11,495</b>	<b>11,807</b>	<b>12,211</b>
Ahmedabad	110	86	89	96	97	91	533	558	576	597	640	641
Amreli	33	45	44	39	26	21	545	577	584	599	596	633
Anand	10	16	15	15	15	15	195	294	298	307	297	306
Banaskantha	93	99	90	76	80	72	1,008	1,034	968	1,029	985	1,032
Bharuch	25	16	19	18	13	10	325	339	339	319	338	344
Bhavnagar	73	72	79	68	68	46	544	623	582	650	654	687
Dahod	4	5	5	4	4	3	193	300	303	310	309	339
Gandhinagar	27	37	29	31	28	21	204	200	193	187	203	216
Jamnagar	40	44	45	42	38	36	594	691	674	709	708	755
Junagadh	28	38	32	34	34	24	544	684	701	734	787	796
Kachchh	117	112	105	112	91	112	655	728	648	608	702	704
Kheda	14	19	19	20	18	22	352	403	433	407	405	426
Mehsana	81	86	84	84	79	63	457	447	437	449	451	468
Narmada	5	5	3	3	4	3	111	120	120	118	113	114
Navsari	46	30	26	21	12	24	174	170	171	146	151	162
Panchmahals	12	8	8	8	8	4	270	298	309	303	303	316
Patan	72	81	87	91	88	90	423	422	422	447	498	487
Porbandar	10	11	9	10	8	8	125	134	135	148	159	169
Rajkot	36	36	32	34	32	24	726	869	849	888	904	889
Sabarkantha	40	48	38	36	34	27	519	533	524	530	574	616
Surat	51	45	38	38	36	26	490	463	470	489	502	304
Surendranagar	81	65	57	47	58	77	721	734	734	757	762	845
Tapi						10						191
The Dangs	4	3	3	3	3	3	57	58	59	57	58	58
Vadodara	38	27	28	29	27	18	554	565	553	551	556	554
Valsad	49	46	45	N*	N*	N*	178	178	177	154	153	160

\* Negligible

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



**TABLE VI.2: District-wise Dry Matter (DM) Availability, Requirement and Balance**

Districts	Available/ Required/ Balance	Dry Matter Availability, Requirement & Balance ('000 MT)							
		1992	1997	2003	2007	2008	2009	2010	2011
Ahmedabad	Available	842.6	878.0	695.8	979.8	1,092.6	990.1	1,012.1	1,529.5
	Required	-	1,441.1	1,627.1	1,731.3	1,763.3	1,800.8	1,844.5	1,895.1
	Balance	-	-563.2	-931.4	-751.5	-670.8	-810.7	-832.3	-365.7
Amreli	Available	719.5	1,636.5	1,209.4	1,113.9	1,926.0	1,099.9	742.5	1,871.2
	Required	-	1,362.4	1,304.9	1,375.5	1,385.9	1,399.5	1,416.9	1,438.7
	Balance	-	274.1	-95.5	-261.7	540.1	-299.6	-674.4	432.5
Anand	Available		-	176.1	659.4	852.8	777.0	797.9	961.1
	Required		1,657.5	1,607.0	2,072.6	2,180.2	2,299.5	2,431.5	2,577.5
	Balance		-	-1,430.9	-1,413.2	-1,327.4	-1,522.5	-1,633.6	-1,616.4
Banaskantha	Available	1,149.7	1,380.1	1,235.6	1,713.1	2,214.8	1,635.7	1,538.1	2,416.4
	Required	-	2,979.1	3,788.6	4,741.1	4,982.1	5,248.7	5,544.3	5,872.9
	Balance	-	-1,599.0	-2,553.0	-3,028.0	-2,767.4	-3,613.0	-4,006.2	-3,456.5
Bharuch	Available	763.0	837.1	628.6	570.1	478.2	507.5	474.1	555.5
	Required	-	857.3	865.0	836.6	839.8	846.9	857.9	873.4
	Balance	-	-20.1	-236.5	-266.6	-361.6	-339.4	-383.9	-317.9
Bhavnagar	Available	887.0	1,690.5	1,477.9	1,565.2	1,795.6	1,487.1	1,048.0	1,866.4
	Required	-	1,859.4	2,061.3	2,092.0	2,105.1	2,121.1	2,140.2	2,162.8
	Balance	-	-168.9	-583.4	-526.8	-309.4	-634.0	-1,092.2	-296.4
Dahod	Available		-	219.2	520.0	839.9	786.0	633.5	1,034.8
	Required		2,288.8	1,789.8	2,079.2	2,145.2	2,215.7	2,291.1	2,371.8
	Balance		-	-1,570.7	-1,559.3	-1,305.3	-1,429.8	-1,657.6	-1,337.0
Gandhinagar	Available	166.7	128.0	184.4	389.6	491.7	420.2	368.6	420.0
	Required	-	1,084.9	1,518.6	1,717.2	1,766.8	1,820.8	1,879.2	1,942.3
	Balance	-	-956.9	-1,334.3	-1,327.6	-1,275.2	-1,400.5	-1,510.5	-1,522.3
Jamnagar	Available	601.9	1,586.0	605.7	2,080.6	2,475.1	2,434.3	2,471.1	2,715.2
	Required	-	1,522.5	1,733.9	1,797.3	1,798.4	1,802.4	1,809.4	1,819.3
	Balance	-	63.4	-1,128.2	283.3	676.7	631.9	661.7	895.9
Junagadh	Available	1,387.6	2,616.8	1,747.1	2,471.7	3,266.3	3,215.0	2,053.3	4,041.1
	Required	-	2,227.4	2,253.2	2,437.9	2,475.9	2,519.1	2,567.8	2,622.5
	Balance	-	389.3	-506.2	33.9	790.4	695.9	-514.5	1,418.6
Kachchh	Available	1,351.1	1,290.8	1,299.9	1,650.9	1,813.8	1,519.3	1,675.9	1,833.3
	Required	-	1,738.6	1,640.1	1,950.7	2,025.0	2,106.6	2,196.3	2,294.7
	Balance	-	-447.8	-340.2	-299.8	-211.2	-587.3	-520.4	-461.4
Kheda	Available	957.3	1,372.2	1,104.0	890.2	1,183.6	1,017.7	900.3	1,378.3
	Required	-	2,055.6	2,291.5	2,711.8	2,820.4	2,939.6	3,070.7	3,215.2
	Balance	-	-683.3	-1,187.6	-1,821.6	-1,636.7	-1,921.9	-2,170.4	-1,836.9
Mehsana	Available	1,230.9	1,325.8	742.2	737.6	867.4	784.8	819.8	961.5
	Required	-	2,289.7	2,305.0	2,707.3	2,805.5	2,912.4	3,029.1	3,156.8
	Balance	-	-964.0	-1,562.9	-1,969.7	-1,938.1	-2,127.7	-2,209.3	-2,195.3

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Districts	Available/ Required/ Balance	Dry Matter Availability, Requirement & Balance ('000 MT)							
		1992	1997	2003	2007	2008	2009	2010	2011
Narmada	Available		-	113.2	248.9	258.1	276.7	247.3	312.8
	Required		474.9	588.5	498.0	482.6	468.9	456.7	446.3
	Balance		-	-475.2	-249.1	-224.6	-192.1	-209.5	-133.5
Navsari	Available		-	102.8	383.6	304.2	295.7	331.1	445.3
	Required		759.4	931.1	814.8	800.8	789.8	781.7	776.5
	Balance		-	-828.3	-431.1	-496.6	-494.1	-450.6	-331.2
Panchmahals	Available	986.9	1,653.2	1,488.3	478.9	932.8	794.7	620.3	942.0
	Required	-	2,131.7	3,077.0	3,304.1	3,329.3	3,359.8	3,395.7	3,437.2
	Balance	-	-478.5	-1,588.8	-2,825.2	-2,396.5	-2,565.1	-2,775.3	-2,495.2
Patan	Available		-	308.5	554.4	665.3	629.0	574.6	731.1
	Required		1,371.5	1,136.6	1,636.0	1,763.5	1,904.3	2,059.8	2,231.4
	Balance		-	-828.1	-1,081.7	-1,098.2	-1,275.3	-1,485.2	-1,500.3
Porbandar	Available		-	129.1	567.8	572.1	697.6	581.4	493.5
	Required		506.6	565.7	586.6	592.0	598.7	606.7	615.9
	Balance		-	-436.6	-18.9	-19.9	98.9	-25.3	-122.5
Rajkot	Available	911.2	2,251.8	851.5	1,818.2	3,303.1	2,135.0	1,371.2	3,289.2
	Required	-	2,118.0	2,220.0	2,429.9	2,476.1	2,529.0	2,589.2	2,657.2
	Balance	-	133.9	-1,368.5	-611.6	827.0	-394.0	-1,218.0	632.0
Sabarkantha	Available	1,070.4	1,428.3	1,093.9	1,166.4	1,540.0	1,323.4	1,225.0	1,797.6
	Required	-	3,220.1	3,922.6	4,221.9	4,297.5	4,380.5	4,471.5	4,571.0
	Balance	-	-1,791.9	-2,828.7	-3,055.5	-2,757.5	-3,057.1	-3,246.4	-2,773.4
Surat	Available	1,223.8	1,277.5	1,108.2	1,218.1	778.1	596.9	604.1	628.4
	Required	-	-	2,613.6	2,679.0	2,705.5	2,743.2	2,793.4	2,858.0
	Balance	-	-	-1,505.3	-1,460.9	-1,927.4	-2,146.3	-2,189.3	-2,229.6
Surendranagar	Available	687.8	942.4	804.1	1,213.9	1,329.2	1,136.2	1,008.9	1,410.8
	Required	-	-	1,445.8	1,825.0	1,904.1	1,989.4	2,081.4	2,180.8
	Balance	-	-	-641.7	-611.1	-574.8	-853.2	-1,072.5	-769.9
The Dangs	Available	104.0	126.7	144.7	184.6	193.1	199.0	164.8	192.6
	Required	-	-	250.5	219.8	212.9	207.2	202.7	199.3
	Balance	-	-	-105.9	-35.2	-19.9	-8.3	-37.9	-6.7
Vadodara	Available	858.5	1063.3	957.4	982.5	1,212.8	1,213.4	1,018.5	1,799.1
	Required	-	-	2,506.7	2,717.2	2,763.6	2,815.3	2,873.1	2,937.9
	Balance	-	-	-1,549.3	-1,734.6	-1,550.8	-1,602.0	-1,854.6	-1,138.8
Valsad	Available		679.3	512.4	357.4	323.1	325.2	304.0	344.3
	Required		-	852.5	1,059.7	1,111.5	1,171.8	1,242.2	1,324.6
	Balance		-	-340.1	-702.3	-788.4	-846.6	-938.2	-980.3

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



**TABLE VI.3: District-wise Crude Protein (CP) Availability, Requirement and Balance**

Districts	Available/ Required/ Balance	Crude Protein Availability, Requirement & Balance ('000 MT)							
		1992	1997	2003	2007	2008	2009	2010	2011
Ahmedabad	Available	124.9	124.3	89.2	183.1	214.0	187.5	221.3	393.9
	Required	-	130.1	147.3	160.9	164.6	168.9	173.7	179.2
	Balance	-	-5.7	-58.0	22.2	49.3	18.6	47.6	214.6
Amreli	Available	61.7	245.7	155.5	327.8	464.6	299.6	220.7	518.0
	Required	-	117.3	113.1	120.8	122.4	124.4	126.7	129.4
	Balance	-	128.3	42.5	207.0	342.2	175.2	94.1	388.6
Anand	Available		-	-	81.1	115.2	101.7	100.8	120.8
	Required		157.6	152.9	211.2	223.4	236.9	251.8	268.3
	Balance		-	-	-130.1	-108.2	-135.2	-151.0	-147.5
Banaskantha	Available	110.9	151.2	117.1	229.2	288.3	192.6	192.5	276.2
	Required	-	266.4	345.8	444.1	469.5	497.6	528.8	563.5
	Balance	-	-115.3	-228.7	-214.9	-181.2	-305.0	-336.3	-287.3
Bharuch	Available	93.7	97.2	115.4	119.4	93.8	92.3	92.5	106.4
	Required	-	75.4	77.2	75.5	76.0	76.8	77.9	79.3
	Balance	-	21.8	38.2	43.9	17.8	15.5	14.7	27.0
Bhavnagar	Available	90.7	226.7	214.0	473.2	556.2	407.1	281.3	542.7
	Required	-	168.9	185.4	192.6	194.7	197.0	199.7	202.7
	Balance	-	57.8	28.6	280.6	361.6	210.1	81.6	340.0
Dahod	Available		-	-	60.7	86.6	54.3	47.1	86.7
	Required		189.9	150.0	178.8	185.6	192.9	200.7	209.0
	Balance		-	-	-118.1	-99.1	-138.5	-153.6	-122.3
Gandhinagar	Available	25.0	19.7	15.1	70.5	97.1	80.2	76.3	83.4
	Required	-	96.9	139.9	161.8	167.2	173.0	179.3	186.1
	Balance	-	-77.2	-124.8	-91.3	-70.1	-92.8	-103.0	-102.7
Jamnagar	Available	-	199.0	-	471.6	522.4	452.9	492.0	548.5
	Required	-	131.2	152.0	156.4	156.9	157.8	158.8	160.1
	Balance	-	67.9	-	315.2	365.5	295.1	333.2	388.4
Junagadh	Available	141.1	346.8	213.0	422.9	571.0	530.3	334.9	669.8
	Required	-	193.0	197.7	216.0	220.2	225.0	230.2	236.0
	Balance	-	153.8	15.3	206.9	350.8	305.4	104.7	433.8
Kachchh	Available	100.4	96.3	97.8	179.0	208.0	177.2	215.2	243.1
	Required	-	159.8	152.6	183.2	190.7	198.9	207.8	217.6
	Balance	-	-63.5	-54.8	-4.2	17.3	-21.7	7.4	25.6
Kheda	Available	87.5	156.7	117.3	122.6	173.8	145.2	142.1	192.3
	Required	-	186.6	208.9	253.1	264.4	276.9	290.5	305.5
	Balance	-	-29.8	-91.6	-130.5	-90.7	-131.7	-148.4	-113.2
Mehsana	Available	177.4	205.7	104.7	121.0	146.6	126.2	158.7	174.0
	Required	-	209.3	213.0	254.1	264.3	275.4	287.5	300.8
	Balance	-	-3.6	-108.3	-133.1	-117.7	-149.2	-128.8	-126.8

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Districts	Available/ Required/ Balance	Crude Protein Availability, Requirement & Balance ('000 MT)							
		1992	1997	2003	2007	2008	2009	2010	2011
Narmada	Available		-	-	44.2	40.6	43.2	44.2	55.1
	Required		40.6	50.2	42.7	41.5	40.3	39.2	38.3
	Balance		-	-	1.4	-0.8	2.9	4.9	16.8
Navsari	Available		-	-	57.3	40.5	39.3	45.1	66.5
	Required		71.6	87.7	79.6	78.5	77.7	77.1	76.7
	Balance		-	-	-22.4	-38.1	-38.4	-32.0	-10.2
Panchmahals	Available	74.6	142.8	89.9	44.7	82.4	61.6	48.9	75.4
	Required	-	179.2	264.2	287.1	290.0	293.4	297.2	301.4
	Balance	-	-36.4	-174.4	-242.4	-207.7	-231.8	-248.3	-226.0
Patan	Available		-	-	82.1	100.2	97.7	93.7	121.0
	Required		121.9	102.9	148.7	160.6	173.6	188.1	203.9
	Balance		-	-	-66.7	-60.4	-75.9	-94.3	-83.0
Porbandar	Available		-	-	87.6	89.9	100.4	73.7	72.1
	Required		44.2	49.0	51.8	52.4	53.2	54.0	55.0
	Balance		-	-	35.9	37.5	47.2	19.7	17.1
Rajkot	Available	101.8	381.7	70.6	587.9	806.3	542.6	439.9	882.5
	Required	-	184.8	194.7	215.3	220.3	225.9	232.1	238.9
	Balance	-	196.8	-124.2	372.6	586.0	316.7	207.8	643.6
Sabarkantha	Available	92.1	139.4	77.8	183.3	246.0	217.8	202.0	297.9
	Required	-	286.3	354.0	387.6	396.1	405.4	415.6	426.5
	Balance	-	-146.8	-276.2	-204.3	-150.1	-187.6	-213.5	-128.6
Surat	Available	170.0	175.2	166.6	191.0	96.8	73.2	70.5	80.3
	Required	-	-	239.4	248.3	251.7	256.1	261.7	268.7
	Balance	-	-	-72.9	-57.3	-154.9	-182.9	-191.2	-188.4
Surendranagar	Available	88.9	187.6	112.3	366.4	410.9	298.9	327.2	541.0
	Required	-	-	130.5	166.7	174.8	183.6	193.0	203.2
	Balance	-	-	-18.2	199.7	236.0	115.3	134.2	337.8
The Dangs	Available	5.2	9.0	9.0	14.4	16.1	16.2	12.8	18.1
	Required	-	-	20.8	19.0	18.5	18.0	17.7	17.4
	Balance	-	-	-11.8	-4.7	-2.4	-1.8	-4.8	0.7
Vadodara	Available	99.8	156.9	128.4	187.9	223.8	241.1	219.8	324.5
	Required	-	-	220.4	240.8	245.4	250.6	256.2	262.3
	Balance	-	-	-92.0	-52.9	-21.7	-9.5	-36.3	62.2
Valsad	Available		96.3	80.9	52.5	45.6	45.7	35.7	43.4
	Required		-	77.4	97.1	102.2	108.0	114.7	122.6
	Balance		-	3.5	-44.6	-56.6	-62.3	-79.0	-79.3

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



**TABLE VI.4: District-wise Total Digestive Nutrient (TDN) Availability, Requirement and Balance**

Districts	Available/ Required/ Balance	Total Digestive Nutrient Availability, Requirement & Balance ('000 MT)							
		1992	1997	2003	2007	2008	2009	2010	2011
Ahmedabad	Available	612.0	507.5	408.7	828.3	969.2	780.7	843.5	1,547.9
	Required	-	899.7	1,016.4	1,082.5	1,103.2	1,127.5	1,156.1	1,189.4
	Balance	-	-392.2	-607.7	-254.2	-134.0	-346.8	-312.5	358.5
Amreli	Available	286.5	783.0	506.2	441.0	921.5	471.8	211.3	896.5
	Required	-	891.5	849.0	898.1	903.7	911.7	922.4	936.1
	Balance	-	-108.5	-342.8	-457.1	17.8	-439.9	-711.1	-39.6
Anand	Available		-	-	527.0	745.9	661.0	668.4	793.5
	Required		1009.8	966.8	1261.4	1,327.6	1,401.2	1,482.8	1,573.3
	Balance		-	-	-734.4	-581.7	-740.1	-814.3	-779.8
Banaskantha	Available	562.7	702.3	637.2	953.8	1,274.0	813.2	834.9	1,367.1
	Required	-	1,863.3	2,359.8	2,984.4	3,141.6	3,315.9	3,509.6	3,725.4
	Balance	-	-1,161.0	-1,722.7	-2,030.7	-1,867.6	-2,502.7	-2,674.7	-2,358.3
Bharuch	Available	497.2	401.1	419.1	368.6	234.9	248.2	222.1	273.8
	Required	-	545.7	552.9	530.8	533.0	537.8	545.6	556.6
	Balance	-	-144.6	-133.8	-162.2	-298.1	-289.6	-323.5	-282.7
Bhavnagar	Available	325.8	697.9	603.8	598.3	760.4	578.7	309.9	718.9
	Required	-	1,193.4	1,311.9	1,344.6	1,355.0	1,367.3	1,381.9	1,398.7
	Balance	-	-495.5	-708.1	-746.3	-594.6	-788.7	-1,072.0	-679.7
Dahod	Available		-	-	382.0	552.2	375.5	319.4	527.3
	Required		1,640.4	1,272.7	1,468.4	1,513.9	1,562.5	1,614.7	1,670.6
	Balance		-	-	-1,086.4	-961.7	-1,187.0	-1,295.2	-1,143.4
Gandhinagar	Available	152.6	96.4	89.5	278.5	403.6	287.2	259.3	336.6
	Required	-	664.1	916.9	1,035.4	1,065.3	1,097.9	1,133.3	1,171.7
	Balance	-	-567.8	-827.4	-756.9	-661.7	-810.8	-874.0	-835.1
Jamnagar	Available	196.2	669.3	178.9	932.1	1,161.3	1,094.4	1,094.1	1,326.6
	Required	-	1,004.2	1,134.9	1,182.5	1,180.4	1,180.4	1,182.5	1,186.7
	Balance	-	-334.9	-956.0	-250.4	-19.0	-85.9	-88.3	139.8
Junagadh	Available	633.8	1,279.6	770.3	1,719.8	2,269.8	2,003.5	1,290.4	2,804.9
	Required	-	1,464.5	1,482.2	1,606.2	1,629.9	1,657.1	1,688.2	1,723.6
	Balance	-	-184.9	-711.9	113.7	639.9	346.4	-397.8	1,081.4
Kachchh	Available	559.8	522.8	548.4	740.7	830.5	649.0	743.1	843.5
	Required	-	1,124.0	1,050.4	1,240.0	1,286.1	1,337.3	1,394.0	1,457.0
	Balance	-	-601.2	-502.0	-499.2	-455.5	-688.2	-651.0	-613.5
Kheda	Available	525.8	978.2	724.4	742.7	1,048.5	803.5	776.9	1,146.3
	Required	-	1,254.0	1,396.7	1,653.5	1,721.0	1,795.5	1,877.9	1,969.1
	Balance	-	-275.9	-672.3	-910.8	-672.5	-992.0	-1,101.0	-822.8
Mehsana	Available	748.4	828.0	423.7	497.1	625.6	496.9	590.1	673.2
	Required	-	1,355.5	1,360.5	16,03.5	1,662.7	1,727.4	1,798.2	1,876.0
	Balance	-	-527.5	-936.9	-1,106.4	-1,037.1	-1,230.5	-1,208.1	-1,202.8

Contd...



Districts	Available/ Required/ Balance	Total Digestive Nutrient Availability, Requirement & Balance ('000 MT)							
		1992	1997	2003	2007	2008	2009	2010	2011
Narmada	Available		-	32.0	123.1	112.8	120.9	100.9	143.5
	Required		338.8	414.0	350.6	339.9	330.5	322.3	315.5
	Balance		-	-382.0	-227.4	-227.1	-209.6	-221.4	-171.9
Navsari	Available		-	-	426.3	277.8	271.6	310.9	452.5
	Required		480.6	586.7	510.3	501.7	495.2	490.7	488.1
	Balance		-	-	-84.1	-223.9	-223.6	-179.8	-35.7
Panchmahals	Available	469.3	900.4	639.0	268.6	506.7	391.4	293.1	478.4
	Required	-	1,426.0	2,069.0	2,175.8	2,183.7	2,195.3	2,210.6	2,229.9
	Balance	-	-525.6	-1,430.1	-1,907.2	-1,677.0	-1,803.8	-1,917.5	-1,751.5
Patan	Available		-	81.3	280.3	364.9	313.7	323.6	464.2
	Required		840.3	695.8	997.6	1,074.1	1,158.7	1,252.4	1,356.2
	Balance		-	-614.6	-717.4	-709.2	-845.0	-928.9	-891.9
Porbandar	Available		-	-	273.6	278.9	308.7	245.4	336.4
	Required		321.0	362.8	373.7	376.9	381.1	386.3	392.3
	Balance		-	-	-100.1	-98.0	-72.4	-140.9	-55.9
Rajkot	Available	339.8	962.9	304.8	902.7	1,637.5	1,110.9	547.5	2,010.9
	Required	-	1,373.2	1,447.6	1,579.8	1,606.9	1,638.8	1,676.0	1,719.0
	Balance	-	-410.3	-1,142.8	-677.0	30.7	-527.9	-1128.5	291.8
Sabarkantha	Available	535.4	782.9	473.3	769.0	990.8	729.2	721.6	1,184.2
	Required	-	2,041.2	2,483.9	2,656.6	2,700.3	2,748.9	2,802.8	2,862.4
	Balance	-	-1,258.3	-2,010.6	-1,887.6	-1,709.5	-2,019.8	-2,081.2	-1,678.2
Surat	Available	1,220.5	1,231.6	1,224.8	1,366.7	597.3	480.7	480.8	523.1
	Required	-	-	1,646.1	1,688.8	1,705.0	1,728.5	1,760.2	1,801.2
	Balance	-	-	-421.3	-322.1	-1,107.7	-1,247.8	-1,279.4	-1,278.1
Surendranagar	Available	237.4	362.8	282.4	439.2	541.8	442.6	336.7	618.8
	Required	-	-	940.6	1,187.9	1,238.0	1,292.1	1,350.8	1,414.4
	Balance	-	-	-658.2	-748.7	-696.1	-849.5	-1014.1	-795.6
The Dangs	Available	42.8	61.1	67.4	98.4	104.4	107.4	85.0	111.9
	Required	-	-	192.3	161.1	155.2	150.2	145.9	142.6
	Balance	-	-	-124.9	-62.8	-50.9	-42.8	-61.0	-30.6
Vadodara	Available	365.6	488.2	414.4	474.9	616.3	559.8	446.7	886.4
	Required	-	-	1,640.6	1,779.8	1,810.1	1,844.3	1,882.9	1,926.7
	Balance	-	-	-1,226.2	-1,304.9	-1,193.8	-1,284.5	-1,436.2	-1,040.3
Valsad	Available		669.5	567.5	336.3	274.4	274.9	247.8	300.3
	Required		-	589.3	729.2	763.3	802.8	849.0	902.9
	Balance		-	-21.8	-392.9	-488.9	-527.9	-601.1	-602.6

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



**TABLE VI.5: Feed Nutrients Availability, Requirement and Surplus/Deficit**

('000 MT)

Year	Dry Matter			Crude Protein			Total Digestible Nutrients		
	Availability	Requirement	Deficit/ Surplus	Availability	Requirement	Deficit/ Surplus	Availability	Requirement	Deficit/ Surplus
1992	15,900.0	-	-	1,681.7	-	-	8,311.8	-	-
1997	24,164.2	34,012.5	-9,848.3	3,158.1	3,022.9	135.2	12,925.4	21,781.3	-8,855.8
2003	18,939.6	44,896.6	-25,957.0	2,032.6	4,026.8	-1,994.3	9,561.9	28,739.6	-19,77.8
2007	24,516.7	50,242.3	-25,725.6	4,761.3	4,593.3	168.0	14,769.0	32,082.4	-17,313.4
2008	30,709.6	51,533.1	-20,823.5	5,736.4	4,732.0	1,004.5	18,100.9	32,878.2	-14,777.3
2009	26,297.3	52,991.0	-26,693.7	4,624.7	4,886.9	-262.2	14,375.5	33,785.9	-19,410.5
2010	22,586.3	54,632.7	-32,046.4	4,189.0	5,059.7	-870.7	12,303.4	34,816.9	-22,513.6
2011	33,970.9	56,478.8	-22,507.9	6,533.3	5,252.3	1,281.0	20,766.8	35,985.0	-15,218.2

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





**TABLE VI.6: District-wise Feed Consumption – Cattle**

(kg/animal)

Cattle	Year	Green Fodder				Dry Fodder				Concentrate			
		Summer	Monsoon	Winter	All	Summer	Monsoon	Winter	All	Summer	Monsoon	Winter	All
In-milk	1997-98	8.9	13.0	10.2	10.7	10.7	7.5	10.9	9.7	2.0	2.2	2.2	2.1
	2003-04	9.2	11.1	10.5	10.3	10.3	7.2	10.3	9.3	1.9	2.1	2.0	2.0
	2006-07	9.7	12.5	10.3	10.8	11.0	6.8	9.3	9.0	2.1	2.2	2.4	2.2
	2007-08	6.7	12.2	10.8	9.9	10.7	7.5	9.5	9.2	2.2	2.3	2.3	2.3
	2008-09	11.1	11.1	11.2	11.1	9.8	9.1	9.1	9.3	2.3	2.6	2.5	2.5
	2009-10	10.3	11.3	11.0	10.9	11.0	15.9	9.7	12.2	2.6	2.5	2.5	2.5
	2010-11	10.3	12.4	11.8	11.5	11.0	7.4	9.7	9.3	2.3	2.6	2.8	2.6
	2011-12	9.8	11.8	10.1	10.6	10.2	8.0	9.3	9.1	2.6	2.5	2.8	2.7
Dry & Not Calved Even Once	1997-98	6.5	11.2	6.9	8.2	8.6	5.8	8.5	7.6	2.9	1.5	1.5	2.0
	2003-04	7.4	7.8	6.9	7.4	7.4	5.3	7.7	6.8	1.5	1.3	1.5	1.4
	2006-07	6.1	8.4	7.9	7.5	8.3	5.3	8.0	7.2	1.8	1.2	4.9	2.6
	2007-08	7.7	9.0	7.0	7.9	8.7	6.0	7.7	7.5	1.3	1.3	3.0	1.9
	2008-09	8.8	9.0	8.1	8.6	8.6	6.8	7.8	7.8	2.0	1.3	1.4	1.5
	2009-10	8.1	8.7	8.0	8.3	9.0	6.7	8.4	8.0	2.4	1.9	3.6	2.6
	2010-11	7.8	9.1	8.3	8.4	9.1	6.3	8.4	7.9	1.7	2.1	1.9	1.9
	2011-12	7.2	9.5	7.3	8.0	8.7	6.6	8.6	8.0	2.0	2.3	3.1	2.4
Young	1997-98	2.9	4.4	2.9	3.4	4.3	2.5	3.5	3.4	0.0	0.5	0.5	0.3
	2003-04	2.9	3.4	3.1	3.1	3.0	2.5	2.6	2.7	0.0	0.0	1.0	0.3
	2006-07	2.9	3.8	3.2	3.3	3.4	2.5	3.3	3.1		1.7	0.6	1.2
	2007-08	2.9	3.4	3.1	3.1	3.3	2.4	3.0	2.9	0.5	0.7	0.0	0.4
	2008-09	3.1	3.2	3.0	3.1	3.3	2.6	3.0	2.9	0.0	2.4	3.0	1.8
	2009-10	3.6	3.5	3.1	3.4	3.3	2.7	3.2	3.0	4.5	1.8	1.3	2.5
	2010-11	3.1	3.5	3.2	3.3	3.6	2.6	3.4	3.2	0.0	0.6	2.0	0.9
	2011-12	2.8	3.7	3.2	3.3	3.4	2.6	3.2	3.1	0.5	0.5	1.0	0.7
Adult Male	1997-98	7.8	13.4	8.9	10.0	11.2	4.4	10.5	8.7	1.7	2.0	2.0	1.9
	2003-04	7.7	12.0	10.5	10.1	11.2	8.2	10.7	10.0	4.5	2.0	1.4	2.6
	2006-07	8.5	11.8	9.4	9.9	11.2	7.0	11.0	9.7	1.8	3.1	1.5	2.1
	2007-08	9.8	10.3	9.1	9.7	11.4	7.7	13.1	10.7	1.6	1.9	1.5	1.7
	2008-09	11.7	12.7	9.8	11.4	11.3	8.4	9.4	9.7	1.5	2.3	2.1	1.9
	2009-10	9.2	12.2	11.1	10.8	11.3	8.2	10.8	10.1	1.0	2.4	1.9	1.8
	2010-11	7.6	13.0	9.8	10.1	11.8	8.0	11.4	10.4	1.4	2.2	1.9	1.8
	2011-12	8.3	12.0	7.8	9.4	10.9	8.3	10.6	9.9	2.8	2.4	1.8	2.3

SOURCE: Survey Reports on estimates of major livestock products, Directorate of Animal Husbandry, Gujarat State, Gandhinagar.



**TABLE VI.7: District-wise Feed Consumption – Buffalo**

(kg/animal)

Buffalo	Year	Green Fodder				Dry Fodder				Concentrate			
		Summer	Monsoon	Winter	All	Summer	Monsoon	Winter	All	Summer	Monsoon	Winter	All
In-milk	1997-98	9.3	14.0	10.8	11.4	11.0	7.3	11.4	9.9	2.4	3.1	3.5	3.0
	2003-04	10.4	13.7	11.1	11.7	10.7	7.4	10.3	9.5	2.1	2.4	2.4	2.3
	2006-07	10.6	13.7	10.3	11.5	11.5	7.0	10.1	9.5	2.5	2.4	2.5	2.5
	2007-08	12.2	13.7	11.6	12.5	11.8	7.6	9.6	9.7	2.5	2.4	2.5	2.5
	2008-09	11.8	12.0	11.4	11.7	11.4	8.4	9.9	9.9	2.6	2.6	3.2	2.8
	2009-10	10.9	12.8	11.8	11.8	11.1	8.5	9.5	9.7	2.7	2.8	2.7	2.7
	2010-11	10.4	12.9	10.8	11.3	10.6	7.4	9.6	9.2	2.5	2.6	3.0	2.7
	2011-12	10.5	13.0	10.7	11.4	10.6	8.6	11.1	10.1	2.6	2.7	2.8	2.7
Dry & Not Calved Even Once	1997-98	6.2	10.9	7.0	8.0	8.8	5.4	9.2	7.8	1.9	1.5	2.6	2.0
	2003-04	8.1	9.7	8.2	8.7	9.1	5.6	11.0	8.6	2.1	1.7	1.7	1.8
	2006-07	6.7	9.6	7.7	8.0	8.5	4.8	7.2	6.8	1.6	2.6	1.3	1.8
	2007-08	8.9	10.0	8.3	9.1	9.0	6.1	8.1	7.7	1.4	2.3	1.2	1.6
	2008-09	9.5	10.7	8.8	9.7	8.7	9.7	8.3	8.9	3.8	4.0	2.5	3.5
	2009-10	8.7	9.9	9.3	9.3	8.9	6.6	7.9	7.8	2.3	4.1	2.5	3.0
	2010-11	7.4	9.6	8.2	8.4	8.9	5.9	7.9	7.6	2.5	2.9	2.9	2.8
	2011-12	7.4	10.1	8.0	8.5	8.9	6.7	9.0	8.2	2.2	3.9	2.1	2.7
Young	1997-98	2.8	4.1	3.1	3.3	3.7	2.3	3.2	3.1	0.0	1.5	1.5	1.0
	2003-04	3.1	4.1	2.8	3.3	3.1	2.3	3.1	2.8	0.0	0.0	0.0	0.0
	2006-07	3.1	3.9	3.0	3.3	3.3	2.6	3.1	3.0		1.3	0.7	1.0
	2007-08	3.1	3.5	3.2	3.3	3.4	2.6	2.9	3.0	0.6	0.6	1.0	0.7
	2008-09	3.2	3.4	2.9	3.2	3.4	2.6	2.9	3.0	4.1	1.1	2.2	2.5
	2009-10	3.2	3.3	3.2	3.2	3.5	2.2	3.0	2.9	0.8	0.6	0.5	0.6
	2010-11	3.0	3.5	3.0	3.2	3.5	2.4	3.1	3.0	2.4	1.2	0.0	1.2
	2011-12	3.1	3.6	3.1	3.3	3.4	2.5	3.2	3.0	0.5	0.6	0.0	0.4
Adult Male	1997-98	8.0	10.2	8.4	8.9	12.4	6.7	11.8	10.3	2.0	4.0	2.3	2.8
	2003-04	0.0	7.2	13.3	6.8	13.3	3.2	8.0	8.2	0.0	4.0	3.5	2.5
	2006-07	8.0	9.4	5.7	7.7	11.4	8.5	8.3	9.4		3.0	1.3	2.2
	2007-08	6.1	4.8	8.1	6.3	9.8	6.1	7.6	7.8	1.0	2.0	2.0	1.7
	2008-09	9.4	10.1	7.1	8.8	6.8	6.1	7.6	6.9	4.5	0.0	2.0	2.2
	2009-10	6.5	11.9	6.7	8.4	9.4	6.1	5.7	7.1	4.0	1.3	3.0	2.8
	2010-11	8.5	17.1	17.1	14.2	10.2	9.5	10.6	10.1	0.0	2.0	0.4	0.8
	2011-12	7.9	8.4	8.3	8.2	10.3	7.2	7.9	8.5	2.0	2.7	3.0	2.6

SOURCE: Survey Reports on Estimates of Major Livestock Products, Directorate of Animal Husbandry, Gujarat State, Gandhinagar.